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KING'S BIRTHDAY HONOURS.

Mr. J. R. Jackson receives a Knighthood.

Orders for Colonel F. Johnson McCall and Major Henry Allen.

The veterinary profession secures triple representation in the list of honours conferred by the King on the occasion of his 64th birthday, and it is with particular gratification and pleasure that we record the conferment of a Knighthood upon Mr. James Ralph Jackson, in recognition of his sterling work, in succession to the late Sir Stewart Stockman, as Chief Veterinary Officer, Ministry of Agriculture and Fisheries.

Sir Ralph Jackson.

Born on February 13th, 1872, J. R. Jackson graduated M.R.C.V.S. at London in July, 1897, entering the service of the Ministry of Agriculture in the following month. During the earlier years of his connection with the Ministry he was engaged on field work in various parts of the country, which included the Department's final efforts in the eradication of pleuro-pneumonia.

This period of his career terminated with his appointment to the Ministry's Field Laboratory at Sudbury, Middlesex, whence, after a considerable period, he was transferred to Alperton, where he was also engaged for some years.

The past twenty years of Sir James Ralph Jackson's life have been spent in the carrying out of administrative duties at the headquarters of the Ministry, succeeding the late Sir Stewart Stockman as Chief Veterinary Officer in June, 1926. In that office he has served with an ability that has now received the well-merited recognition upon which it is our desire to congratulate him in the name of the profession to which he has brought an additional distinction.

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The name of Lieutenant-Colonel Frederick Johnson McCall, M.C., M.R.C.V.S., Director of Veterinary Services, Tanganyika Territory, appears in the Colonial Office List as the recipient of a C.B.E. in the Civil Division of the Order of the British Empire, while a Military Division O.B.E. has been conferred upon Major Henry Allen, Royal Army Veterinary Corps, Veterinary Officer, Remount Depôt, Mona, India.

STOP PRESS.

ROYAL COLLEGE OF VETERINARY SURGEONS.

COUNCIL ELECTION RESULT.

The following result of the R.C.V.S. Council Election was announced at the Annual Meeting of the Royal College held on Thursday :—

Name.	*Votes.*
Hobday, F. T. G.	853
Simpson, P. J.	849
McKinna, J.	773
Dunkin, G. W.	746
Spencer, T. F.	719
MacQueen, J.	717
King, W. S.	702
Carter, J H.	689
Young, T. D.	657
*Walker, G. K.	501

The above secured election.

The unsuccessful candidates were Messrs. D. S. Rabagliati (454) and W Hamilton Kirk (391).

*G. K. Walker in place of A. Gofton, resigned.

Royal Army Veterinary Corps Golfing Society.

Through the courtesy of the Committee of the North Hants. Golf Club the Society held its Fifth Annual Meeting at Fleet, on the 22nd and 23rd of May, 1929.

The competitors included Colonels Smith, Pallin and Todd, Lieut.-Cols. Stratton, Conder and Walker, Majors Jackson, Danels, Holness, Hogg, Knowles, and Bamford, and Captain G. S. Walker.

The two chief events, *viz.*, the Annual Challenge Cup for the best scratch score and the Founder's Cup for the best score on handicap, were decided on the opening day. Colonel Todd, with a score of 94, secured the former, while Majors Danels and Hogg tied for the Founder's Cup with a nett 82. On the replay Major Hogg returned a winning card of 79.

The Captain's Prize (a handsome cup presented by Major G. T. T. Jackson) for the best handicap score *v.* Bogey, was also won by Colonel Todd, who returned 3 up. Lieut.-Col. Stratton was second with 1 up on Bogey.

In the other events, Colonel A. Smith and Lieut.-Col. Conder were successful in the Foursome Handicap Medal round and Majors Hogg and Knowles won the Foursome Handicap *v.* Bogey.

At the conclusion of an enjoyable meeting, Mrs. Todd presented the prizes to the successful competitors.

The Annual General Meeting of the Society was held on the 22nd May last, and it was decided to admit to honorary membership ex-Temporary Officers of the Corps as well as officers of the Territorial Forces, serving and retired. It is hoped, therefore, that next year a record entry for the meeting will be obtained.

Practical Hints.*

By Lieut.-Col. H. T. Ryan, D.S.O., F.R.C.V.S., Cork.

I have often noticed, in reading reports of different veterinary meetings, that the discussions which followed were very often of more value to the ordinary practitioner than the original paper. I have also noticed that the best discussions invariably followed were the writer was, shall I say, foolish enough to propound some original theory or new treatment. This evidently rubbed up listeners the wrong way, and members who, in the ordinary course of events, would have nothing to say till the meeting was over, let themselves go, and the result was a lively discussion.

Now, the few facts I am going to bring to your notice to-night are things which I have had to find out for myself for the most part. At the same time, I would like to say that I have come here to learn, not to lecture. I trust, therefore, that when it comes to the discussion you will let yourselves go, let me have what I deserve, and if my reputation, if any of it is left, should suffer, I will not grumble, provided we have improved our professional knowledge by a small decimal point.

Examination of Horses for Soundness.

Is it right to examine a horse for soundness on a wet day, if it can be possibly avoided ?

During the War, when discharging horses from hospital, I have often had a horse trotted up and he would go perfectly sound. He would walk over to the Remount Depôt about a mile away, and when trotted there was found to be lame and returned immediately.

This puzzled me at first, but after some time we noticed that the horse which would trot perfectly level during a shower of rain was perceptibly lame when the shower was over. During a cold shower a horse trots along with stiffened quarters, head poked out, ears back in an uncomfortable fashion, and he is evidently paying all his attention to the unpleasant feeling of trotting in the rain, and for the moment his attention is diverted from the slight pain in his foot or feet, as the case may be.

I am not quoting you exceptional cases or the experience of an individual, as it was of common occurrence with different veterinary officers, on different days, and with different horses, till it came to be a well recognised fact in the hospital which I had the honour to command.

Of course I am referring to horses only slightly lame, mostly foot cases, but this is just the sort of case which crops up for examination for soundness, so I would like to issue a warning to the younger members of our profession to be on their guard if they are examining horses on a wet day.

Whilst on the question of soundness—and this appeals to everyone—may I ask another question. Are we taking money under false pretences in examining a horse's eyes without an ophthalmoscope ? I contend we are, unless conditions are exceptional.

There are numbers of cataracts and slight opacities of the cornea which we are very likely to overlook unless we use an ophthalmoscope. This was brought to my notice in France by Captain J. Somerville, M.R.C.V.S., when we were investigating the cause of blindness in horses.

Without the small electrical ophthalmoscope which I am showing you I know that I, personally, since becoming a private practitioner, would have passed as sound a number of horses with defective vision. In fact, in two cases recently the owner knew that the animals' sight was imperfect.

Some years ago I was buying a polo pony. I examined and rode the animal and I liked him.

After galloping him for his wind I put him at a small jump—and it was a good thing it was a small one—as he simply galloped into it as though there was nothing there, and went out on his knees and nose. I promptly returned the animal.

A few days later this same pony was bought by another man and sent to me for examination.

I carefully examined the animal, particularly his eyes. The pupils reacted to light, there was no opacity of any kind and the Katoptric test in a very dark box yielded nothing ; both eyes in every way appeared to be normal. I had satisfied myself that the animal's eyes were right, but I could not understand why he should have made such a mess over the jump a few days previously. By chance I flicked my finger in front of his eyes ; he took no notice of it and to all intents and purposes the animal was blind, or very nearly so. But for my experience over the jump I would have given him a sound certificate, as he did not walk or trot in any way like a blind animal.

I had no ophthalmoscope at the time, and I think the electric instrument had not been invented, and we all know the use of the old-fashioned one was a troublesome business, with unsatisfactory results.

Whilst still harping on the dangerous subject of soundness, I should like to refer to another condition, *viz., Dry Mouth.*

I refer to a condition, evidently of some nervous origin, mostly seen in well-bred horses, the mouths of which, when they become excited, become parched, and the animals will not answer the bit, in so far as they are bad pullers. I believe the condition is incurable. I can only remember having seen three or four cases, but I believe it is a well-known condition in India. Is a horse suffering from this condition sound ? I contend not, and I wonder how many of us have passed horses as sound without noticing it. I know that I, personally, would, and probably have done so before the condition was brought to my notice by a fellow Irishman, Major J. J. Hilliard, R.A.V.C.

I have never been able to come across any literature on the subject, nor have I ever heard it referred to amongst professional men. Perhaps the condition may be well known to some of you ; if so, I should feel grateful for any information concerning it, its treatment, or its cure.

Hæmorrhage.

Penis bleeding after amputation.

A very easy way to stop secondary hæmorrhage, should it occur, is to put a bandage right round the horse, so that you have pressure on loins and on the sheath.

The hæmorrhage, being mostly of a venous type, is very easily stopped in this way, as good pressure on the sheath can be obtained.

* Paper presented to the Veterinary Medical Association of Ireland, on 2nd November, 1928. Received for publication 18th April, 1929.

I am not certain, but I think I have seen this same method advocated in some paper a couple of years ago. I have on two or three occasions found it useful during the last twelve years and can confidently recommend it.

Speaking of bleeding, I find that aseptic tow is by far the best way of stopping hæmorrhage where the vessel cannot be ligatured or an artery forceps supplied. This may be an old idea, but during the early days of the War, when operating on a horse for shell wound, I cut the femoral artery and out came the blood as water flows from a watering can. Ligature, forceps and tourniquet were out of the question, so I grabbed a lump of tow, plugged wound tightly, and stopped it almost immediately. What a difference from cotton wool, which is neatly returned into your hand in a nice round ball, and, if I may add, with the expression, "No thanks, this is not my job."

Last winter, during a hunt the Master's horse got badly cut just above the hock, injuring the anterior tibial artery and vein. The animal was particularly bad tempered. I had no forceps, and even if I had I could not apply them without throwing the horse down, by which time he would probably have died from hæmorrhage, as even two improvised tight tourniquets were not able to make much impression on the bleeding.

I was bemoaning my fate, not having any tow, and I began to wonder what was the best substitute to form a clot. I luckily thought of trying a blanket, and got one from a house close by. I tore it into strips like a stable bandage, and was delighted to find that it served my purpose admirably. Next to tow, it is the best thing I know of to form a clot, and a half hour's rest before moving the animal is often advisable. In bad hæmorrhage cases I always leave my bandages on 36 to 48 hours and use plenty of liquid in removing them. If removed in 24 hours' time you may have the same trouble over again.

Knowing that aseptic conditions are often far from perfect, it is extraordinary how well the wound looks after 48 hours. I often thought this was due to the absence of air, owing to the clotted blood sealing the wound hermetically.

If the case is far away and bandages become rather tight, I always tell the attendant that if the animal appears uneasy next day he is to cut a few of the outer layers and so relieve the pressure.

Maize.

I have never seen it stated in print, but for the past twenty years I have often noticed how the giving of maize to horses and dogs alters or enriches the colour of the coat. In some cases the alteration is very marked, a light bay horse becomes darker by two or three shades, a dark bay horse almost turns brown, and a light-coloured mealy chestnut horse becomes almost a liver chestnut. I would advise that only about two lbs of maize per day be given, otherwise the stable assumes a very nasty odour.

In my opinion, maize is just as good as, if not better than, linseed for giving a horse's coat a shine. It can be bought in cooked form, is much cleaner and not nearly so troublesome.

Chloral Hydrate.

There is one little point I should like to bring to your notice—I have found it very useful and it may be of benefit to others.

I generally give chloral hydrate to horses prior to chloroforming for abdominal or other long operations. Now, I find that the dose varies considerably according to the idiosyncrasy of the animal; whilst 1½ ozs. may have a marked effect on a 17 hands horse, it may make very little difference to a much smaller animal.

I used to wait about thirty minutes and if the animal was not staggering give another ½ oz. Now I very often find that I can avoid giving the second dose by simply letting the animal feed. I usually let him graze and in a few minutes there is a marked change; the small quantity of food evidently stimulates the starved digestive system and brings about the desired result.

Whilst on the subject of chloral hydrate, I would like to mention that some years ago a well-known authority advocated the giving of chloral hydrate to relieve the pain in colic, to be followed by a physic ball to remove the deleterious material. This treatment was largely adopted. I also tried it, but soon found that no purgative action was produced by the ball. I then tried a series of experiments on horses which had no colics and, if my memory serves me right, found that even if nearly double the ordinary dose of aloes was administered in conjunction with chloral hydrate, no purgative action was produced.

When this was brought to the notice of the originator of the treatment he changed it, and said it had been found that barium chloride should be substituted for aloes.

Arecoline.

With reference to colics, I often read articles in which the use of arecoline is highly spoken of and a good number of cures are attributed to its adoption. Personally, I do not use it in colic cases, and express no opinion as to its efficacy or otherwise.

I have used it in other conditions, and in a very large proportion of cases the animals showed marked symptoms of abdominal pain in half an hour or less. This alone has prevented me from using it in colic cases, but I am quite prepared to admit that I may be missing a valuable agent in certain conditions. I am simply placing my observation before you for your consideration.

Mange.

I know that veterinary surgeons in private practice have not much opportunity for trying experiments, so I would like to bring to your notice a rather interesting one which I myself tried during the War.

A big chestnut horse, in good condition, was suffering from bad canker of both hind feet. As the case was likely to be a long one, I had him put into a stall between two other animals—one a horse and the other a mule, which were also likely to be under treatment some time, owing to foot injuries.

Both these animals were suffering from bad sarcoptic mange (proved by microscope). The partition between the stalls was simply a swinging bar. No skin dressing was applied. I had these three animals groomed with the same brush for thirty days and at the end of that time the disease was not conveyed to the horse with a healthy skin, *i.e.*, from a clinical point of view, nor was the coat in any way itchy.

I might add that the chestnut horse received 60 grains of arsenic daily in his food and showed no poisonous symptoms.

The canker did not improve, nor did it become much worse.

Punctured Wound in Foot.

About eighteen months ago a farmer came to me at dusk and told me that one of his horses had been kicking in the stable and had got one prong of an ordinary stable fork into the coronet of off hind heel—and that it had gone in a long way, and when they tried to pull it out the handle came off the fork. They then fixed a rope in the arch of the fork and it took two strong men with all their might to pull it out. He said the horse was in a bad way.

I told him I would have to operate on the foot and that, as it was rather late that evening, I would do so next morning. I gave him a syringe and a little peroxide of hydrogen which I told him to syringe into the wound, and afterwards to apply some oily dressing and bandage, etc. I also told him to have a special farrier there on my arrival.

Next day I got my chloroform and all my paraphernalia ready, expecting to have an interesting operation.

I found the animal to be a six-years'-old, heavy draught gelding; he was blowing slightly and was holding his foot up, and had all the appearance of being in great pain. There was a small punctured wound on the outside heel of the coronet, about 1½ inches from the most posterior point.

I asked for the fork, and was shown the way it went in, and at what angle. The other prong of the fork did no damage, as it passed along the inside wall of the foot. Taking the bent fork and placing it near the foot, I tried to visualise its position before removal. I came to the conclusion that the point of the fork had reached the toe or very near it, having penetrated to the depth of fully six inches, and it was at the toe I decided I would begin my operation.

Before proceeding further, I would like to draw your attention to the shape of the fork (produced) on withdrawal from foot. The points of the fork were pointing downwards when the outer one entered the foot. The animal evidently kept on kicking, hitting the handle against the wall at the back of stable with such force that it was difficult to understand why the point of the fork did not appear at the toe. As you will see, the prong which entered the foot is bent inwards at least 2½ inches, and also slightly downwards.

To continue—The animal was got out of the stall with some difficulty, and whilst he was being led across the yard I noticed he just tipped the ground once or twice with his toe, putting only slight weight on the foot. This made me think that perhaps the case was not so serious as I previously thought. Should I give B.I.P.P. a chance?—and, remembering some extraordinarily favourable results it had produced in other cases, I decided I would give it a trial.

I told the owner there was just a chance that the operation would not be necessary, as I was going to adopt another treatment and would wait for a few days to see how the case progressed.

I gave the horse a dose of anti-tetanus serum. I then syringed pure peroxide of hydrogen into the wound, twice. I next filled a 10 c.c. hypodermic syringe with B.I.P.P., put the nozzle into the hole and kept it well pressed down; I then syringed the B.I.P.P. in, using some pressure. I next got a piece of adhesive plaster and put it over the hole and bandaged up the foot. I told the owner that dressings were not to be disturbed till I saw the animal in a few days' time, when I would operate if necessary. I left instructions that if the animal began to blow more heavily, go off feed, or get any worse, I was to be informed immediately.

I got word next day that the animal seemed much easier and was inclined to rest the foot on the ground.

On the third day I visited him and was delighted to find he was greatly improved. Although still very lame, he was carrying about one-third or one-quarter of his normal weight on the foot.

On removing the bandage, there were about three drops of thin pus on the outside of the wound, and practically *nil* exuded on pressure.

I again dressed foot in the same way, gave instructions to leave it alone for forty-eight hours, after which time the bandage was to be removed and a little oily dressing painted on the outside of the wound morning and night.

In a week the owner reported that the animal was walking very well; in another week he was turned out to grass, and was perfectly sound at the end of a month from the time of the original injury.

Debility.

In looking over my case book, I am reminded of rather an unique experience concerning the above.

This was an eight-years'-old hunter mare which had been in the owner's possession three years. She was in good condition when bought, but rapidly lost it. She had been treated by various veterinary surgeons, including myself, without any result.

I could not find anything radically wrong with her; her teeth were attended to, various tonics prescribed, different foods tried and she had been treated many times for worms, but all was of no avail.

At last, I persuaded the owner to let me have the animal in my own stable for observation. I told the groom to let me know if he could find her in any way abnormal.

After a few days he said the only thing abnormal about her was that she was a ravenous feeder, or, as he expressed it, "I wonder she does not eat the few paving stones I put in her manger to make her feed slowly; but the more food I give her the thinner she seems to get."

By chance he gave her a feed whilst I was there and I noticed that the mare went for it in no half-hearted fashion; in fact, she seemed to want to devour the whole lot in one mouthful, if such were possible. I told him to put the food into a box and feed her off the ground. Within three days the change was noticeable and at the end of a week so great was the improvement that I sent her home. I told the owner if he fed her off the ground she would continue to improve.

In two months' time she was in show condition.

About a year later I met him casually, riding, and noticed that the mare was beginning to get thin again, so I said: "Hello! I see you are feeding the mare out of a manger again." He looked surprised, and said that he had changed grooms about a month before, but forgot to tell the new man about feeding her off the ground.

When my advice was again followed, and the previous mode of feeding resumed, the mare rapidly regained her excellent condition.

. . . . . .

After having read his paper, Colonel Ryan gave particulars of a prescription of his own powder, for the removal of worms in horses, which he had found very efficacious. He then exhibited some instruments, including a castrating knife made for him by Fannin and Co., of Dublin, which was almost the reverse of the ordinary knife used and which he found particularly useful for the standing operation; an artery forceps specially shaped to prevent the slipping of the ligature when the forceps was being removed; a suture needle, and a German fitting for a douche, which enabled it to be used at once when it was thrown into the bucket of solution without the usual preliminary trouble of filling the tube.

Discussion.

The Chairman (Mr. A. F. O'Dea) when calling on Mr. Magee to open the discussion, said that they were grateful to Col. Ryan for his paper, which was most interesting, and of the kind to which they rarely had the pleasure of listening at their meetings.

Mr. L. M. Magee said that the first time he had the pleasure of meeting the essayist was after the meeting of of the National V.M.A. in Dublin. He had met him a few times, and each meeting left him wiser than before. He had seldom listened to a more interesting paper. With reference to the examination of horses on a wet day, he had no experience of this where he could remember having made mistakes, but he had a great objection to examining a horse for soundness on a windy day, as it was possible to pass a slight whistler. He did not believe in examining a horse for wind by ringing alone. He had an experience of a horse which he examined, and when galloped to the left hand it whistled, but when to the right-hand it was sound. He passed it as sound and the owner afterwards found that it was sound. Horses often whistled when rung, but when galloped in a field were found to be sound. He found horses which had been galloped in a small circle cast for their wind, but which afterwards proved to be sound. A horse should be galloped hard for a short time; this sometimes showed them to be whistlers where an ordinary gallop round a field made them appear sound. As regarded the ophthalmic test for sight, Col. Ryan was quite right, the ophthalmoscope should be used. He would ask the opinion of those present as to examining the horses' hearts. He considered it possible that horses had been passed as sound when they had bad hearts. A gallop might not show signs of heart distress. *Re* chloral hydrate, he had an interesting experience—a sow passed one bonham and was still forcing. She was a big sow, and he removed another bonham, and there was still another one felt in her, but he could not get at it. He advised leaving her alone, but the next day the sow was still forcing, so he gave her a dose of chloral hydrate and then other doses, but they had no effect. He then used chloroform and saved the sow, but the bonham was dead. With regard to arecoline being objected to on account of its giving pain, he considered the pain as an useful indication that the drug was working. Concerning the punctured woumd in the foot, his experience was that in cases where it entered the frog and injured the navicular bone the prognosis was generally hopeless.

Col. Ryan had given a good "tip" *re* local anæsthetics—to use Novo Zirol instead of cocaine. A smaller quantity of that could be used, so that it really was no dearer, and it did not deteriorate. He wished to know what was Col. Ryan's explanation of the horse with debility being cured by feeding it off the ground. With reference to Col. Ryan's castrating knife, when he castrated he put the animal down under chloroform and used to use the Haussmann and Dunn emasculator, but had occasional cases of hæmorrhage—last year three or four,—which made him nervous; he therefore decided to abandon the use of this instrument, and no used a torsion forceps, which he considered safest and best, as he could not recall having had a case of hæmorrhage with it. In using the clam and torsion forceps he sterilised them by boiling, where possible. He would like to express his thanks and gratitude to Col. Ryan for his interesting and instructive paper.

Mr. J. F. Healy espressed his thanks to Col. Ryan for his paper, and remarked that postponing the examination of horses when it was raining might be done in France, but he considered it would be impossible to do so here—the horse dealers were too busy for much delay; and in the quick sale it would be very hard to detect such slight signs of lameness. He had never done castration standing, always using the Haussmann and Dunn emasculator, and he had not seen it have any bad effect. He found more scirrhous cords from the torsion forceps than from this method.

Prof. J. J. O'Connor thanked Col. Ryan for coming such a long way to give such an interesting paper. He was particularly glad to see him, as they had been students together. They did not often get so original and instructive a paper at their meetings. He agreed that the ophthalmoscope was a very essential instrument to use for the detection of cataract. Blindness might very easily escape detection when there is no obvious lesion of the eyes. This was the first time he had heard of "dry mouth" being mentioned as unsoundness. He had a case of a horse always quidding. Its teeth were all right and it was kept under observation in a box and dropped dry quids, there being no slobbering. He tried arecoline, but there was no salivation. The horse two years afterwards was still quidding. It was a good hunter, and won jumping competitions. It was in better condition when on grass than in the stable. He had found tow a good medium for clotting in cases of hæmorrhage, better than cotton wool. He noticed that horses varied very much in the way chloral hydrate affected them. He had not been aware of the fact of the food making the chloral hydrate act more quickly. Arecoline was often disappointing. He liked to see signs of pain as it was an indication that it was acting.

Mr. P. F. Dolan asked if maize had any effect on the coats of Greyhounds. With regard to mange, he had noticed in one or two cases that psoroptic mange appeared more contagious than sarcoptic. In some large studs he had seen horses affected with mange in different parts of the stable, and horses in between them unaffected. Had the arsenic in the case described any effect on the sarcoptic mange? Would Col. Ryan advise casting a cart horse for cataract detected by ophthalmic examination only? Referring to the wound being cured by B.I.P.P. was it not possible that the cure was due to the fact of the hypodermic needle forcing the dressing down to the bottom of the wound, and that any other reliable disinfectant would have been as good?

Mr. J. M. Crowe thought that passing a lame horse as sound on a wet day might be due to the fact that the lame horse was likely to forget the pain owing to the soft nature of the ground. He would like to ask Col. Ryan whether he used chloral hydrate in conjunction with morphia. Arecoline should not be used as a routine measure—one's mind should be made up as to the class of colic before it was used, as it was not suitable for all types. He was in military hospitals of all kinds in France, and horses without mange had the same brushes used on them as were used on horses with mange, and no mange developed. *Re* the punctured wound in the foot, his usual treatment consisted in enlarging the wound and getting in pure carbotic acid. No further treatment was usually required, but if there was, he would try antiseptic baths. He was very interested in the debility case. In feeding the animal off the level there would be no

production of saliva and the stretching of the neck to reach the ground might have been productive of it. He was a great believer in the use of the ophthalmoscope; many unsound animals had been passed for want of its use.

Mr. O'LEARY added his thanks to those already expressed to Lt.-Col. Ryan for coming such a long way to give such a very excellent and interesting paper, and said "if some of the 'tips' he has given us here to-night are as useful as his subcutaneous injections of oxygen for all forms of paralysis in the dog (and I am sure they are) we would be well advised to follow them." (Applause.)

Col. Ryan had told them that maize fed to horses would make the colour of their coats a few shades darker. That was very useful information, especially to some of them, as a bad-coloured horse was always a bad seller.

Regarding his prescription for worms he should certainly give it a trial. He used oil of chenopodium for round worms, and arsenic, copper sulph., ferri sulph., pot. antimony tart. in the usual doses.

It was well to make particular note of Col. Ryan's remarks *re* the examination of horses for soundness. He purchased a horse in a sale yard (Sewell's)—a three-year-old gelding. The animal was sold as sound, and on examination he found him to be a whistler. Sewell's veterinarian examined him again the following day and passed him sound, therefore, he had to take the horse. He examined him again in a few days when he was still a whistler, but the following day he was sound, and he whistled only when ringing on the right side. He was afterwards sold unsound, but seemingly it was not detected in England, where he won several first prizes, and was still winning.

He used Burgess plaster bandages for fractures in cats and small dogs and plaster of Paris and pitch for large dogs.

Mr. S. O'DONOVAN remarked that he had a case of inverted uterus of a cow, in which he amputated the uterus, and gave about 2 oz. of chloral hydrate. She was comfortable during the operation and had no hæmorrhage, but she died.

Mr. L. M. MAGEE had heard that chloral hydrate was absorbed more quickly in oil than in water, but he thought this was wrong, and he would give it with the stomach tube.

Mr. CROWE said that in water it was liable to cause irritation. It should be dissolved in water and administered in milk or oil.

Prof. J. F. CRAIG said he welcomed Col. Ryan to the meeting of the Association, and hoped that it would be the forerunner of many more occasions when he would be with them and give them the benefit of his experiences. Perhaps in the future the Association might hold its meetings in other centres, including Cork, and he thought this change would be to the benefit of the profession, and of the Association.

He regretted that he was unable to be with them in time to hear all the observations of Col. Ryan, but there were a few points on which he would like to comment.

In the first place, he agreed that the ophthalmoscope was a very valuable instrument in the examination of the eye, especially in the detection of small opacities of the refractive media, and of changes in the retina. In certain forms of blindness, described as amaurosis, however, there might be no changes in the retina, the lesions being located in certain definite areas in the brain.

With regard to mange, the researches of Shilston had shown that the development of the acari was adversely affected by certain conditions, and among them was the abundance of the secretions of the sebaceous glands. That might explain, even in some horses, their resistance to infection when placed in contact with affected animals.

In worm infestation in horses one commonly noted, at *post-mortem* examination, the great variety of species of worm parasites found in the one animal. It would be remarkable if one drug removed all the various species. Against the most important species of strongylidæ oil of chenopodium had proved wonderfully effective as a vermifuge. It had its limitations, however; it only got rid of the adult worms in the lumen of the gut, it did not affect the larvæ in the wall of the bowel or in the anterior mesenteric artery. Therefore, agents that might not only act as anthelmintics but also by counteracting the effects of the parasite, were also desirable. On that account he also advocated the use of courses of powders containing iron, arsenic and potassium antimony tartrate.

THE REPLY.

Col. RYAN, in reply, thanked the members present for the kindly reception they had given his paper.

With reference to trotting horses in the rain, some members seemed to differ from him, but what he wished to point out was that it was very exceptional for a private practitioner to have the opportunity of seeing fifty to 100 horses trotted out individually in a shower of rain, and then have the same horse trotted out when the shower was over. He granted that the percentage was very small—about two or three,—but the point he wanted to bring out was that such a thing was possible, and that when one was examining a valuable horse for soundness on a wet day he was taking a certain amount of risk. He thought Mr. Magee's remark about examination of the horse's wind very interesting, and it reminded him of an unusual case at the Curragh some years ago. He was lent a chestnut mare to hunt. He found the mare was a bad puller and also a bad whistler; when his arms got tired he thought he might bring the animal under control by giving her a mile or two on one of the ploughed gallops. The moment the mare got her head on the plough the whistle ceased; she was an animal that it was not easy to get distressed, and the moment she was taken off the plough and it was necessary to hold her the whistle returned. Was this mare sound or unsound. ?

He thought most horses could be got to make a noise, of sorts, if severe bits were used and the animal was not allowed to carry its head in its normal fashion. Recently he was examining a horse's wind and had the animal galloped in a circle both ways and then round a big field. The wind seemed perfectly sound, but when he got on the horse's back a slight whistle was perfectly audible. He thought it was a bad thing to gallop an unfit colt too much, as by so doing one might give a sound certificate and yet that animal might be a whistler in three days as a result of over-galloping in an unfit condition.

Another rather exceptional experience he had was as follows: He was hunting a horse one day and he came to rather an innocent-looking fence, but on the far side there was a big ditch covered with briars. The animal took an extra big jump over it and immediately on landing made a noise something between a whistle and a roar. It continued to make a noise ever afterwards. Yet here was a horse sound one side of a fence and unsound the other. In the case of one of his own horses he was hunting the previous week, the animal cut its knee on a sharp stone, and bleeding, although by no means profuse, showed no signs of stopping after resting for ten minutes with an improvised tourniquet. He was unable to procure a piece of blanket, but got a clean bran sack, cut it down each side and tore it into strips, and soon had some nice 8-foot bandages, which proved very effective.

He was interested to hear Mr. Magee's remarks about the injection of chloral hydrate into the trachea, and thought it remarkable that such a potent drug should have no action when so administered.

With reference to foot punctures, he himself had very good results if he got cases early. He used a hypodermic needle with a blunt point, syringed out the wound with pure peroxide of hydrogen, and then syringed in B.I.P.P.

Regarding Novo Zirol, it was not necessary to inject much of it, and it should be done slowly.

To show how non-poisonous it was, it might interest his hearers to know that up to two drachms could be injected into the human subject with perfect safety. He believed Novo Zirol used to deteriorate with time, but changes had been made in it, and that at present manufactured did not deteriorate on keeping.

Regarding the case of debility and giving the animal its food off the ground, he agreed that this might be the cause of an increased supply of saliva, but considered it might

also be due to the fact that the animal was not able to get big mouthsful and also, when fed from the ground, owing to the lowered position of the head, the food would tend to keep falling down between the molar teeth, and so get more grinding, and an increased supply of saliva. The Creator intended horses to eat off the ground ; man made them eat out of a raised manger. With reference to Professor O'Connor's remarks about lack of secretion of saliva, it reminded him of a case he had in India. It was a native cavalry horse and was suffering from bursati, and he prescribed hydrarg. biniod for ten days. Five weeks later he was asked to see the horse, as he could not feed. He found that, owing to a mistake, the animal had received the hydrarg. biniod for thirty-five days instead of ten. The patient was evidently very hungry, but could not swallow, and threw out the " quid " of food. Neither did he appear to be able to swallow water, but in all probability he got a little down. On the fourth day the animal was able to swallow a little and gradually improved, but, as well as he could remember, the bursati was not cured.

The effect of maize on horses' coats could easily be seen in troop horses on an inspection parade. Although most of the horses would be the same colour, say bays or chestnuts, they were not all fed alike, and one had no difficulty in picking out the squadron in which maize formed a part of the ration. He himself had tried feeding his own Collie on cooked maize and found that, after a few months, his light sable colour had become at least three shades darker, and the difference now between him and pups of the same litter was most marked.

Re worms, he regretted that he had lost careful notes of a series of experiments he had tried in India, but, speaking from memory, he selected groups of three horses which were awaiting slaughter, and he gave to each group about three to four times the ordinary dose of such drugs as turpentine, copper sulphate, tartar emetic and santonin, for several days, and then made *post-mortems*. The conclusions to which he came were that one could not get rid of worms with any of the first three, but with santonin about half the worms had been voided. In this country turpentine seemed to have more effect than in India.

He had made a large number of *post-mortems ;* most of the horses were in good condition, and he could only remember seeing two horses free from worms, and one of these horses was suffering from glanders.

He agreed with Professor Craig's remarks that it was almost impossible to get rid of such a host of different parasites as one found in the intestines of a horse with a single dose of a single drug, particularly when one reflected on the different modes of propagation. He had used oil of chenopodium for worms, but considered it had its drawbacks ; it sometimes caused deafness in dogs, and horses strongly objected to its taste.

Mr. Magee was of opinion that the shape of the castrating knife did not matter, but he (Col. Ryan) considered that it did, as it was important to cut right through the seven layers of scrotum with one deep cut ; that alone tended to prevent swelling.

He was interested to hear the experience with the Haussmann and Dunn emasculator. He procured a replica which was apparently no different from the genuine article, but he got more bleeding than he liked. He returned it and got the genuine instrument, and since then had had no further trouble, with the exception of one case, a bleeding scrotum from a " bleeder."

With reference to mange, he noted that horses in good condition would not contract it so readily as those in poor condition.

As Professor Craig remarked, there might be some secretion of the skin which prevented the contraction of the disease. He had often noticed, in treating cases of sarcoptic mange, that when one tried to sweat horses with rugs on, it was impossible to get the affected part to sweat for three or four days, after which time cases began to improve. Knowing that sweat, in itself, was very poisonous, he thought it might have an effect on the acari, so he got two horses and had them sweated every day for ten days and let the sweat dry on, but this had no effect whatever on the mange. He had not tried chloroform and morphia together on horses. Morphia, in his experience, seemed to have an exactly opposite effect on dogs from its effect on horses—whilst it acted as a narcotic on the former, it seemed to act on the latter as a stimulant.

As far as he was aware, literature on the subject did not mention the fact that arecoline would cause colic if given to an animal which previously was free from pain. He thought it was difficult to diagnose mange in horses without using the microscope. He remembered once, after a microscopic examination in each case, tying three horses to a wall ; one was suffering from sarcoptic mange, one from forage acari and one from follicular mange. He asked five veterinary surgeons to pick out the sarcoptic horse ; they all failed, and he was not surprised, as the symptoms in each were alike. Concerning follicular mange, he had a case in a St. Bernard dog which was so badly attacked that large pieces of skin on the hips and ribs sloughed away. The only treatment which seemed to have any effect and eventually cured him was the following : He got some of the pus which was being discharged, added water to it, heated it to just boiling point in a test tube, let it stand till cold and injected one drachm of this subcutaneously. After several injections the dog made a good recovery.

With reference to blindness, he agreed with Professor Craig's remark, as, in the human subject, when the pupil reacted to light—or in other words when there was no lack of accommodation, and yet the subject was blind,—it was generally due to a lesion at the base of the occiput.

Owing to the length of discussion and the number of questions asked, Col. Ryan feared he might have omitted to reply to all ; if so, he would ask their forgiveness.

World Poultry Congress.

STRONG SUPPORT FOR LONDON EVENT NEXT YEAR.

The response to the preliminary announcement issued in connection with the fourth World Poultry Congress, which is to be held at the Crystal Palace in July, 1930, has been so substantial that the accommodation will be severely taxed. Regulations for British exhibitors have been drawn up and will shortly be issued ; and it is hoped that early application for exhibition space will be made by breeders and trade interests. Suggestions which have been made for including a section of special interest for small poultry-keepers, in order to emphasise the opportunities for egg-production on a small scale in gardens and back-yards, are being sympathetically considered.

The international response has been exceptionally gratifying, and, though it is not possible at present to state the number of countries that will participate, it is clear that the event will attract a great many visitors. Active preparations are being made in Canada and in the United States, as has already been stated ; and in France, Holland, and Germany national committees have been set up. The Irish Free State Minister of Agriculture has appointed a committee to advise the Department of Agriculture with regard to that country's representation at the Congress, and particulars can be obtained by intending exhibitors from the secretary, World Poultry Congress Committee, Department of Agriculture, Government Buildings, Dublin.

The British national exhibit will be planned under the guidance of the Department of Overseas Trade, and, though the bulk of the expense must fall on the general Congress funds, it is hoped that some assistance may be forthcoming from local authorities for agricultural education.

A correspondent forwards us a *Bath and Wilts Chronicle* photo of a Shorthorn cow with her four calves, which were born on May 18th. Perhaps some of our readers can, from their own experience, destroy the *Chronicle* Editor's illusion that this may be a world's record.

The Control of Bacillary White Diarrhœa of Chickens.

By D. C. Matheson, F.R.C.V.S., D.V.S.M. (Vict.),
Professor of Pathology, Bacteriology and Meat Inspection,
Royal (Dick) Veterinary College, Edinburgh.

In an article contributed to *The Scottish Journal of Agriculture* eight years ago, the present writer described white scour (bacillary white diarrhœa) as the most formidable disease to which chickens are liable. Nothing, in the meantime, has emerged from publications on the subject to modify that opinion which, indeed, was based not only upon the records of his own laboratory, but also upon a survey of the published works of other investigators. The article cited (Matheson(1)) gives references to such other works. Leaflet No. 53(17) was published subsequently. In the present article, the writer has set himself a series of questions, and has attempted to answer them.

A consideration of these questions will show that they constitute the seven fundamental questions in epizootiology. They suggest a proper line of thought for the student: the initiation of proper methods of control depends upon correct answers to them. The questions may be applied to any disease, especially to the contagious and/or infectious diseases; in view of their importance the questions may be grouped together in the first place:—

(1) What is this disease?

(2) Why is the disease so important?

(3) How may the disease be recognised?

(4) What can be done to prevent the disease gaining an entrance into the flock, herd or drove, etc.?

(5) What can be done to limit the spread of the disease when it does gain an entrance to a flock, herd or drove, etc.?

(6) What can be done to eliminate the disease from a flock, herd or drove, etc.?

(7) What can be done to eliminate the disease from the flocks, herds or droves, etc., of the country?

What is this disease?—Bacillary white diarrhœa is an acute septicæmia of young chickens associated with an organism which is related to the germs of the *Salmonella* group, and it is therefore known as the *Salmonella pullora* (Rettger and Harvey); (Bergey(2). Bruce-White places it among his Meta-Salmonella types of the Salmonella group (Bruce-White(3)). It is also termed the *Bacterium pullorum*.

Diarrhœa, as a symptom, is sufficiently common to have given a name to the disease, but it is not always present. The infection occasionally occurs in a chronic form in adult fowls and acute cases have been described (Jones (4)). The disease is confined to fowls, but recently it has been stated that the organism has been recovered from sparrows (Dalling *et alt* (5)). Bacillary white diarrhœa is essentially a disease of incubator-hatched chickens, the conditions of artificial incubation favouring the spread of an infection of the type caused by the *Salmonella pullora*. The organism appears to be an obligatory parasite.

Why is the disease so important?—Of the chickens examined in the writer's laboratory from January, 1925 to February, 1929, to take a recent period, 62.1 per cent. were affected with bacillary white diarrhœa, and of the adult birds submitted to the agglutination test from September, 1925 to February, 1929, 14·4 per cent. failed to pass the test. We have received diseased chicks from 19 Scottish counties and positive blood samples from 16 counties.

These figures are interesting in themselves as indicating the prevalence of the disease, but they are also in general agreement with those of other workers, which gives them an added significance (Beaudette and Black(6); (Rice(21)). But when the fatal character of the disease is recognised, and when its prevalence is realised, there still remains another character which increases its importance and which constitutes the major difficulty in its eradication. That character is the ability of the parasite to fasten on to its victim so that, even if the chicken, by virtue of a robust constitution, survives the initial attack, it may harbour the germ in its body for the term of its natural life. Chickens which survive an outbreak, are not only backward in growth but, as just indicated, the germ is apt to become located in the body, *e.g.*, in the ovary, and by inducing changes in that organ, interfere with the output of eggs; and what is of far greater importance, a proportion of the eggs laid by a fowl thus carrying the germ in its system, contain the organism, which may either destroy the developing chicken in the shell, or make it ill very soon after it is hatched and, by becoming spread about in the environment of the affected and usually dying chicken, it is a source of infection to the other chickens in contact with the diseased one. The average death rate is about 75 per cent., but small flocks may be entirely destroyed. Fowls which harbour the germ in their bodies, may show no sign of the disease; such fowls are known as "carriers." The carrier fowl constitutes the major problem in the control of bacillary white diarrhœa and the agglutination test has been devised to enable us to detect the apparently healthy bird, which is actually a carrier of the disease germ. Such a fowl may appear healthy although she lays a proportion of infected eggs—a proportion; so that, of, for example, twenty-four eggs, sold in two lots of a dozen each to two separate buyers, one purchaser may suffer a total loss, the other may not lose a chick. Prospective purchasers of a setting of eggs, or of "day-old" chicks are beginning to realise this aspect of the problem and to demand, before purchase, a guarantee that the eggs or chicks are from tested stock—that is, stock whose blood has been tested and from which fowls which carry the germs of bacillary white diarrhœa have been removed. Thus the disease interferes with trade in settings of eggs and of "day-old" chicks; purchasers are apt to be disappointed and claims for reimbursement may be considered.

"The day is not far distant when poultrymen will experience difficulty in selling their baby chicks or hatching eggs unless the parent stock has been tested for bacillary white diarrhœa" (Lee(7)).

How may it be recognised?—If there be no obvious fault with the incubator or system of management, suspect the existence of bacillary white diarrhœa among the chickens when numerous deaths, especially if preceded by diarrhœa, occur among the birds during the first few days or even during the first week or two after hatching. Once suspicion is aroused, it should be confirmed or refuted by a bacteriological examination.

Neither symptoms nor lesions are sufficient for accurate diagnosis; "Bacillary White Diarrhœa" requires accurate

diagnosis if much preventable loss is to be avoided (Matheson(8)). It is not a question of the value of the chick, it is a question of the prevention of extensive loss not only in one year, but possibly for several years.

The discovery of several dead chickens may be the first intimation that disease exists among the birds, but affected chickens may be seen to be dull and drowsy, to stand apart from their fellows, with ruffled feathers and drooping wings, and to pass, often with signs of pain, soft frothy yellowish-white droppings, which tend to stick to the feathers around the vent, so pasting it up and thus interfering with the passage of further motions. Weakness increases, the chicken sways when it stands, and staggers when it walks; one or both feet may be swollen and lameness be evident. When seen from behind, the chicken has a hunched up appearance, the abdomen appears distended; if the chicken has started to eat, the appetite may be poor or altogether lost. Death may occur the first day of the visible illness or may be delayed for a week or more. The poultry keeper should not attempt to make an examination of the dead chicken, for little of value may be learned and infection will be spread still further. Death may have been so rapid that visible lesions had not time to form, but when present such lesions commonly take the form of small yellowish nodules in the substance of the lungs. Sometimes these nodules coalesce, forming a yellowish mass, occupying the greater part of one lung. Similar nodules may be present in the walls of the heart. The intestines contain some frothy yellowish-white material and may show patches of congestion. Absorption of the yolk has been impaired or arrested.

The lung lesion requires to be distinguished from the much rarer condition of pneumo-mycosis; the intestinal condition from coccidiosis which, however, tends to attack somewhat older chicks and in which disease the appearance of the affected cæca may be significant. For diagnosis, a bacteriological examination is necessary and as the *Salmonella pullora* has no morphological distinctions, such examination involves bio-chemical and agglutination tests, in addition to the microscopical one.

What can be done to prevent the disease gaining entrance to the flock?—Buy new stock, either birds or eggs, only from an "accredited flock" (for definition of an "accredited flock" see later) and keep this new stock isolated until the birds pass successfully the next test, which they would be due to undergo if they had been retained in the accredited flock; or unless tested recently—within three months—have them tested and purchase only subject to passing the test. Keep brought-in eggs for hatching away from the known free stock till the chicks are hatched and are four weeks old. Isolate brought-in chicks till four weeks old. If the flock be free from bacillary white diarrhœa and stock cannot be purchased from an accredited source, isolate all newly-purchased birds till they have successfully passed two tests at intervals of three months, or buy with a certificate that the birds have successfully passed the agglutination test twice within recent date—six months; once is sufficient for practical purposes in the case of cockerels; purchased eggs or chicks should be isolated until the chicks are four weeks old. Have the hygienic and sanitary arrangements as good as possible, avoid overcrowding of the stock; beware of second-hand apparatus, *e.g.*, incubators, brooders, etc.

Small units facilitate the control of the disease and, by limiting the opportunities for infection, make for health. Relatively large water vessels, by diluting soluble or suspended material, reduce the chances of infection. Mild disinfectants are sometimes added to the drinking water with the object of destroying any germs which may gain an entrance. Disinfect thoroughly all hampers, crates, egg and chick boxes, etc., returned from shows and elsewhere. The poultry keeper should not visit a neighbour's place if bacillary white diarrhœa exists thereon, nor allow his neighbour to visit his own premises in the meantime.

What can be done to limit its spread when it does gain an entrance?—On discovering signs of disease, or death, attend to the healthy stock first; then isolate sick chicks and those in contact with them. Do not handle the dead chicks, but pick them up with a pair of forceps or with a small pair of tongs and burn them. Dead chicks intended for bacteriological examination, if to be sent through the post, must be enclosed in a watertight container and be sent by letter post. Certain other regulations must be observed (see *Post Office Guide*, page 24, and Leaflets Nos. 53 and 149(17 and 18)).

If the suspected existence of bacillary white diarrhœa be subsequently confirmed, destroy and burn all sick chicks and, if there be but few in-contact chicks, it is better to destroy them also and disinfect thoroughly everything that has been in contact with the diseased birds, but if the number of in-contact chicks be large, they may be isolated and be given a chance to survive. If they do survive, they may be reared for table purposes, away from all contact with the breeding stock. They should not be used for breeding purposes, but if, for some very special reason, one must be so used, have its blood tested twice at intervals of three months before putting it among the breeding stock. If it fails to pass the test on either occasion, it should not be used for breeding purposes. All droppings should be burned.

What can be done to eliminate the disease from a flock?—Have all the stock, not breeding stock only, subjected to the agglutination test. Remove all reactors and—

(1) Isolate the reacting birds and use their eggs for table purposes only. It is essential that their eggs should not get mixed with those of the breeding stock and, for that reason, reacting birds are frequently isolated at once and disposed of for table purposes as soon as practicable.

(2) Place the non-reacting birds in disinfected houses and upon clean ground. If labour be available and the nature of the pasture permit, remove the top layer of soil from the contaminated run to a depth of from four to six inches; mix it with lime and bury it; use the fresh soil from the hole, to cover the run. Finally, cover the new surface with a layer of lime (see Leaflet No. 170, p. 15(19)). Resow and keep the birds off the run until the growth is strong enough to bear them. Alternatively, the run may be generously dressed with ground quick-lime and poultry kept off it for at least four weeks (see Leaflet No. 149).

(3) Have all the stock tested again after an interval which varies with the degree of infection as revealed by the first test. If infection be heavy, test again after three months; if the degree of infection be small, test again after six months. Remove the reacting birds and dispose of them as already indicated. Maintain the best sanitary

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and hygienic conditions that the premises permit. Use for breeding purposes birds which have never been affected with bacillary white diarrhœa, and which have been reared free from all contact with it.

What can be done to eliminate it from the flocks of the country ?—At the Poultry Conference, under the auspices of the Board of Agriculture for Scotland, held in Edinburgh in May, 1928, the present writer advocated the compilation by some central authority such as the Board (now Department) of Agriculture for Scotland; the Scottish National Poultry Council; the Poultry Societies, or some similar body, of a list of graded flocks. For this, the co-operation of the poultry industry is needed. It is for the Industry to consider the proposals and to determine whether or not such a co-operation shall be forthcoming. In the following scheme, the "Central Authority," however constituted, is referred to as the "Administration Office."

Following the above conference, the Board (now the Department) of Agriculture for Scotland has introduced a scheme of tested flocks in connection with its "Schemes for the Improvement of Poultry" (Scheme No. 4, "Tested Station"(20)).

The first step would be to ascertain if there be any flocks in the country which are entirely free from the disease, and to compile a list of such flocks.

Every flock, claiming to be free, would need to be tested as soon as practicable and, if found free, and the hygienic and sanitary conditions were good, the flock would be placed upon the "free list" in accordance with the definition of "free" below, and if remaining free after two more testings, at intervals of not less than six months, would be placed upon the accredited list, provided the hygienic and sanitary arrangements were up to the standard required and the regulations, with regard to the introduction of fresh stock, were complied with by the owner.

Grading Flocks.—Graded flocks would be of three classes:—

(1) Tested. To mean that the flock has been examined and tested by the agglutination test and that reacting birds have been removed and disposed of, and thorough disinfection carried out and that the flock is kept under good hygienic and sanitary conditions and is periodically inspected to see that these conditions are maintained, and that the birds are tested at least once a year by the agglutination test and reactors are removed, and that all brought-in stock, in the case of adult birds, is submitted to, and passes the agglutination test before admission to the flock, unless accompanied by a certificate from a recognised laboratory, to the effect that the birds have successfully passed the test within the previous three months and all brought-in eggs or "day-old" chicks are isolated until the chicks are four weeks old and remain free from any trace of bacillary white diarrhœa.

(2) Free Flock. To mean that the whole adult flock has passed, at one time, one successful negative test and is maintained under very good hygienic and sanitary conditions and is open to periodic inspection to see that these conditions are maintained, and is tested at least once a year to see that freedom from bacillary white diarrhœa reactors is maintained. There must not be any outbreak of bacillary white diarrhœa among the chicks hatched from eggs produced by the "free" flock. Brought-in stock birds must be tested twice, at intervals of not less than three months, or be accompanied by a certificate from a recognised laboratory, to the effect that they have been so tested and have passed the test recently, before admission to the flock, and eggs or "day-old" chicks must be isolated till the chickens are four weeks old and remain free from any trace of bacillary white diarrhœa.

(3) Accredited Flock. To mean a free flock which continues free from bacillary white diarrhœa reactors after two further testings of the whole flock at intervals of not less than six months, and is maintained under excellent hygienic and sanitary conditions and is tested at least once a year thereafter to see that freedom from bacillary white diarrhœa reactors is maintained. There must not be any outbreak of bacillary white diarrhœa among the chickens hatched from eggs produced by an accredited flock. The regulations for brought-in stock, "day-old" chicks and eggs shall be as for a free flock. Cockerels, after having been tested once and successfully passing the test, may be admitted to any flock; they would need, however, to be tested before being admitted to a new flock. Flocks reared from eggs, or chickens, from an accredited flock, may be placed on the list of accredited flocks after having passed at one time, one complete negative test and if kept under excellent hygienic and sanitary conditions. The birds may be tested when from eight to nine months of age.

The administration office might arrange for the testing to be done:—

(1) Free of cost.

(2) At the owner's expense.

(3) A charge might be made for placing on the "graded list" in combination with either (1) or (2) as above; or admission to the list might be free in combination with (1) or (2) as above.

(4) A charge might be made for a certificate to be issued stating that the flock was placed on the "graded list" in the year (?) such certificate to apply for one year only, or to the next periodic test in combination with (1), (2) or (3) as above, or a certificate might be issued free in combination with (1), (2) or (3) as above.

The poultry keeper should endeavour to get his flock placed upon the "graded list." If the demand for admission to the list be great, then applications should be dealt with in rotation so far as the preliminary inspection of the flock is concerned, but for purposes of actual testing, preference should be given to:—

(1) Flocks which have already been tested and from which reactors have been removed.

(2) Flocks with no previous history of outbreaks of bacillary white diarrhœa.

(3) Flocks of high grade kept under the best conditions.

Flocks kept under bad hygienic or insanitary conditions are unsuitable as candidates for graduation in the meantime, unless there has been no outbreak of bacillary white diarrhœa for at least two years previously and better hygienic and sanitary conditions be provided forthwith. Bad hygienic conditions hinder the elimination of infection and serve to prolong, unnecessarily, the probation period.

The country should be mapped into districts and an approved veterinary surgeon appointed for each district

or, failing a veterinary surgeon, the poultry instructress might be available. (For brevity, this personage is hereinafter designated the "Adviser.") To a considerable extent, that has been done already. A veterinary surgeon might be prepared to act in his own district; definite areas are allocated to the poultry instructresses, working in connection with the Colleges of Agriculture, etc.; but for the purposes herein indicated many of these areas would be too large.

The poultry keeper who wishes to have his flock tested and graded, would write to the administration office to that effect, and a formal acknowledgement of the application would be sent to the applicant, and then the administration office would instruct the Adviser to visit the premises and report as to the suitability of the flock as a candidate for admission to the list of graded flocks.

In forming an opinion, the Adviser would be guided by the general health of the birds and the general hygienic and sanitary conditions of their housing and other accommodation; the facilities for thorough disinfection; and the facilities for grouping the flock with a view to the subsequent identification of the hatchings from each group, together with the previous history of the flock with regard to (1) bacillary white diarrhœa, and (2) testing.

The Adviser would report to the Administration Office and, if his report were favourable, the office would communicate with the laboratory advising that the flock specified (an official stereotyped form would be used) required to be tested. The laboratory would then forward to the Adviser the necessary sterile phials, together with instructions for the collection of the blood samples, and would also state a date on which the samples could be received for examination. The Adviser would then arrange to collect the blood samples and would forward them to reach the laboratory within twenty-four hours of their collection. After testing the blood samples, the laboratory would report the result to the Administration Office and from there the result would be communicated to the Adviser and to the owner.

As soon thereafter as practicable, the Adviser should visit the premises and see that all the reacting birds are removed and disposed of as required, and that the general hygienic and sanitary arrangements, if necessary, have been brought up to the approved standard. The Adviser then reports to the Administration Office, which places the flock upon the appropriate list—"Tested and Reactors Removed"—"Free"—or "Accredited" as the case may be, and issues a certificate to the owner, which certificate states the date of the testing and the next date on which testing will need to be repeated, within a week or ten days of which latter date the certificate will expire. It is realised that the above organisation may require, in the meantime, some modification, but with a complete scheme, modifications suggest themselves to some extent, *e.g.*, the number of visits which the Adviser is called upon to make may be reduced; he may make his inspection and, if satisfied that the flock is suitable for graduation, he may take the blood samples forthwith, having made the necessary preliminary arrangements, or, the owner, wishing to have his flock graded, might be permitted to communicate direct with the laboratory, who would issue the phials and instructions; the blood might be collected by the local veterinary surgeon or by the owner, as is often done at present, and after the testing, the owner, provided with the report furnished by the laboratory, might submit the report to the Administration Office and ask that the flock be graded. The Office would then furnish the Adviser with a copy of the report and instruct him to make the necessary examination of the general conditions, etc., of the birds and, if the Adviser report favourably, the flock could be graded.

Penalties.—The fraudulent use of the term "Tested," "Free" or "Accredited," in connection with a flock, may be subject to penalty.

Advertisements.—Regulations should be made to secure that the name of the Administration Office or of the laboratory be not used in any advertisement without the written consent of the Administration.

In the form of application, to be filled up by the owner, provision would be made for a statement as to:—

(1) Whether or not any suspected or actual outbreak of bacillary white diarrhœa had occurred in the flock and the date thereof.

(2) Whether or not the birds have been tested for bacillary white diarrhœa.

(3) Whether or not the birds have been treated with serum, or vaccinated in any way, and for whatever purpose.

The Solution of the Problem.

Here is the solution of the problem of bacillary white diarrhœa as at present understood. Purchasers of sittings of eggs or "day-old" chicks or adult fowls for breeding purposes, must obtain their purchases only from stocks guaranteed free from bacillary white diarrhœa. Vendors must endeavour to build up such flocks by observing three cardinal rules:—

(1) Use only, for breeding purposes, fowls which have never suffered from bacillary white diarrhœa and which have been reared free from any contact with the disease.

(2) Until it be possible to observe Rule (1), have all the stock tested by the blood test and remove all the reacting birds. Testing must be repeated, at intervals, until there are no reacting birds left. Further testing at longer intervals will be required, to ascertain that the flock continues free from the disease. A bird which has once failed to pass the test, should not be used for breeding purposes. All reacting birds should be isolated and disposed of for table purposes. Keep all brought-in eggs for hatching or "day-old" chicks isolated till the chicks are four weeks old and have remained free from any trace of bacillary white diarrhœa.

(3) Keep the flock under the best hygienic and sanitary conditions possible.

Anticipation of Criticism.—Is the disease sufficiently widespread and important a source of loss to warrant the adoption of the measures indicated? Leaflets Nos. 53 and 149 emphasise what is already known, that bacillary white diarrhœa is the most formidable disease with which the chicken raiser has to contend, coccidiosis notwithstanding. It is for the poultry interests to get together and to ascertain whether or not it is to their own advantage to support such a scheme as is herein outlined. It would be a help to the beginner or prospective buyer if he knew where he could get a sitting of eggs or "day-old" chicks

or some stock birds which were as free from the disease as human ingenuity can make them.

Is the test sufficiently reliable to be made a basis for such action as is suggested? The concensus of opinion, as expressed in The Proceedings of the Third World's Poultry Congress, held at Ottawa in 1927(9) was that the test is as reliable as the majority of the biological tests used for administrative and other purposes, and that, properly used and interpreted, it is reliable for the purpose indicated. The valuable aid the test affords for the protection of healthy flocks, is emphasised in Leaflet No. 149, p. 7.

Of the agglutination test, Professor Rettger writes:— "No matter what the objections may be that are raised against it, and many of them are unfounded, the entire poultry industry will be compelled to accept it sooner or later, or face the ever-increasing losses from a disease that is the most insidious and destructive of all known poultry diseases" (Rettger(10)).

In response to a circular letter issued by the Bureau of Animal Industry, U.S.A., 1925, "investigators, replying, endorsed the reliability of the test, with the general qualification that the test be accurately applied" (Kaupp and Dearstyne(11)). One test will indicate the majority of carriers in a flock, but it is important to remember that some birds may exhibit an intermittent reaction; hence, more than one test may be needed to eliminate all the carriers. It is certainly desirable that the test be standardised as far as possible, particularly with regard to the agglutination titre that may be held to indicate a positive reaction; the advisability of the use of a polyvalent antigen, etc. These are matters for the laboratories that might be concerned, which would advise the Administration on such points.

Salmonella pullora and *Eberthella sanguinaria* (*Bacterium sanguinarium*, "Moore," associated with avian typhoid) cannot, at present, be differentiated by the agglutination test. Would that fact vitiate the procedure suggested? "This phenomenon adds to the value of the test for bacillary white diarrhœa, in that it should remove potential carriers of avian typhoid from the flock" (Kaupp and Dearstyne (*loc. cit.*)). The avian typhoid carrier should be eliminated from the flock, especially in view of some recent work done abroad. (Beaudette, Hennepe, Taylor. See Doyle(12)).

"In Great Britain there is no record of the disease occurring in chicks" (Doyle (*loc. cit.*)). "The history of the outbreak and the age of the affected birds is usually sufficient to settle the matter; in avian typhoid the diagnosis can easily be confirmed by the isolation of the causal organism from the bone marrow" (Doyle(13)).

How many tests are required to clear the flock? The number would be influenced by:—

(1) The number of reactors.

(2) The promptness with which they were disposed of.

(3) The facilities for thorough disinfection and the provision of clean runs, etc.

(4) The strict observance of rules with regard to the bringing in of fresh stock.

It will occasionally happen, where infection is limited and management good, that one test will clear the flock. "The efficiency of the test in reducing or eliminating the infection can be determined only in flocks where two or more years' records are available" (Beaudette and Black, (*loc. cit.*)). "Testing for elimination should be continued for at least three years" (Leynen(14)).

Under the scheme outlined in the present paper, flocks should be cleared, more or less promptly, depending upon observance of the conditions already referred to, but after the first test the flock enters Grade (1) "Tested," and reactors removed, provided the conditions governing Grade (1) be observed. The progress of the flock to the higher grades would be determined largely by the degree of initial infection aud the observance of the rules for disposal, disinfection, etc.

Would the elimination of the disease from the flocks of the country be prompt? That would depend upon several factors:—

(1) That the disease is caused by an obligatory parasite confined to fowls.

(2) That the number of infected flocks be small.

(3) That the number of infected fowls in the infected flocks be small.

(4) The observance of the three cardinal rules already formulated.

Everything depends upon the first factor, while, with regard to factors (2) and (3), the indications are that the disease is actually widespread, and some patience will be needed. The fourth factor is largely in the hands of the poultry industry itself; the facilities will improve as the number of "free" or "accredited" flocks increases.

Salmonella pullora is included in the group of bacteria known as the Salmonella group, which group embraces the more important organisms associated with "food poisoning" in man in Great Britain; similarly the *Eberthella sanguinaria* is included by some authorities (Bergey, (*loc. cit.*)) in the same large group, which embraces the germ of typhoid fever in man. Do these facts modify the recommendation to dispose of reacting birds for table purposes?

Salmonella pullora and *Eberthella sanguinaria* have several features in common with the organisms with which they are severally grouped; they differ from them in the all-important particular that they have not been found to produce disease in the human subject.

As a rule *Salmonella pullora* is not widely distributed in the bodies of reacting fowls, but tends to be located in some of the offals, *e.g.*, the ovary; moreover, it is readily destroyed by cooking, though this fact would not necessarily render the flesh innocuous if the organisms were pathogenic for man; thus, for example, it might produce a heat-resistant toxin.

Stale eggs, not demonstrably bad before ingestion, when eaten by man, are apt to produce diarrhœa of a transient character, but the cause of this requires further investigation.

Since the above was written, two pamphlets have come to hand from which the following relevant quotations may be made:—

"Bacillary white diarrhœa . . . is probably the most prevalent of the contagious diseases of poultry. . . The only solution of this problem is the elimination of infected breeding birds, by means of the agglutination test" (Dearstyne, Kaupp and Wilfong(15)).

"Despite technicalities, it is apparent that the macroscopic agglutination test is the best method, advanced to date, for the detection of carrier birds" (Dearstyne, Kaupp and Wilfong(16)).

One more question. With regard to intervals between testings, three months and six months are mentioned: Are these times settled or can they be modified? The object is to secure a sufficient interval between the tests:—

(1) To permit the fowls to recover from the slight effects. It is injudicious to bleed fowls frequently.

(2) To secure that the second or third test shall pick out as many of the intermittent reactors as possible.

Bearing these two requirements in mind, the Poultry Industry, through the Administration Office, could determine:—

(1) The most convenient time of the year for testings to be undertaken.

(2) The most convenient time for the test to be repeated.

Thus the scientific and economical requirements could be adjusted.

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(10) RETTGER, L. F., "The Bacillary White Diarrhœa Test," quoted in "Profitable Poultry Management," as above, from *The Rural New Yorker*, May 21st, 1927.

(11) KAUPP, B. F., and DEARSTYNE, R. S., "Bacillary White Diarrhœa," *Bulletin* No. 29, June, 1927, North Carolina State Coll. of Agric., p. 32.

(12) DOYLE, T. M., "The Method of Transmission of Avian Typhoid," *Jour. Comp. Path. and Therap.*, Vol. 39, part 2, June, 1926, p. 137.

(13) DOYLE, T. M., "Bacillary White Diarrhœa of Chicks," *Jour. Comp. Path. and Therap.*, Vol. 38, part 4, December, 1925, p. 266.

(14) LEYNEN, "Bacillary White Diarrhœa in Belgium," Rep. Proc. W. P. Congress, Ottawa, 1927, p. 374.

(15) DEARSTYNE, R. S., KAUPP, B. F., and WILFONG, H. S., "Causes of Poultry Mortality in North Carolina," *Bulletin* No. 264, March, 1929, North Carolina State Coll. Agric., etc.

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(Continued at foot of next column.)

From The Veterinarian, June, 1828.

Paralysis in Lambs.

By Mr. W. GARLAND, of Doncaster.

Three lambs, the property of R. Grayham, Esq., Bridge Hall, Doncaster, were dropped on the 23rd of March, without any assistance. In each there was a complete loss of motion on the left side. They lay quietly on the affected side, but when lifted up and thrown on the opposite side their struggles were incessant. I recommended that they should be bathed in warm water for a quarter of an hour every day. This was of considerable benefit, and in a few days they were enabled to stand. At the expiration of a week we ceased to bathe them, when they became rapidly worse than before, and were killed. They kept their condition during the whole of the disease. Since this, more of the same flock (lambs two months' old) have been attacked with a similar affection.

. . . . . .

This disease is not congenital, as the language of our friend, Mr. Garland, would lead us to suppose. It is the consequence of the ewes and lambs being too much exposed in severe weather. When a weakly lamb is just dropped, and passing from the temperature of the uterus to some degrees, possibly, below the freezing point, and unable at first to use his limbs, if he lies for an hour on a bed of snow, or on the wet ground, in a cold, bleak situation, he is seized with this complaint. It is a combination of rheumatism and palsy, occasionally affecting, as Mr. Garland describes, only one side; at other times, the whole frame.

Breeders are not sufficiently careful of their ewes at yeaning time. Even a warm quick hedge in a field would considerably lessen the mortality among the lambs; but a shed, even of the rudest construction, composed of faggots and hop-poles only, and that can again be taken down when the lambing season is over, would more than trebly pay its expense.

We know no remedy for this disease but warmth. The warmth of any closed place will often be sufficient. If the lamb be perfectly helpless, it may be put into a hamper or box, and covered with some coarse woollen substance. It should also be fed with warm milk ten or a dozen times a day. As soon as the lamb is able to toddle a little about, it may be returned to its mother, or placed in some dry and sheltered situation. If purging accompany the paralysis, a little sheep's cordial may be used; but, otherwise, medicine is of little avail. The best formula we know for this empirical, but very useful medicine, is the following:—

Prepared chalk	...	one pound.
Powdered catechu	...	half a pound.
Powdered ginger	...	a quarter of a pound.
Laudanum and peppermint water		each a pint.

EDIT.

(Continued from previous column.)

(17) White Scour of Chickens, Leaflet No. 53, The Board (now Dept.) of Agric. for Scotland, Queen St., Edinburgh.

(18) Bacillary White Diarrhœa of Chicks, Leaflet No. 149, Ministry of Agric. and Fisheries, Whitehall Place, London.

(19) The Use of Lime in Agriculture, Leaflet No. 170, Ministry of Agric., etc.

(20) Schemes for the Improvement of Poultry, Dept. of Agric. for Scotland.

(21) Sixth Ann. Rep., Ministry Agric. North Ireland, 1926-1927, p. 39 *et seq.* (RICE, J. P., Head, Animal Diseases Division).

NATIONAL VETERINARY MEDICAL ASSOCIATION.

Ayr Congress.

31st August—6th September, 1929.

AMENDED PROGRAMME.

SATURDAY, 31st AUGUST.

2 *p.m.*	Council Meeting.
3-30 *p.m.*	Forty-seventh Annual General Meeting. A meeting of the Scottish Branch, N.V.M.A., will be held at the close of the Annual General Meeting.
Evening.	Social Gathering—Western House.

SUNDAY, 1st SEPTEMBER.

10-45 *a.m.*	Meet at Town Hall and parade for Church Service in Old Church.
2-30 *p.m.*	Motor drive to Culzean Castle, Maybole.

MONDAY, 2nd SEPTEMBER.

9-30 *a.m.*	Official opening of Trade Exhibition by the President.
10-15 *a.m.*	Civic Welcome by Provost of Ayr and Convener of County Council.
	Section of Veterinary State Medicine.
11 *a.m.*	Paper: "Foot-and-Mouth Disease," by Mr. J. O. Powley. Discussion to be opened by Professor S. H. Gaiger.
2-30 *p.m.*	Outing to Banks o' Doon Tea Gardens, Alloway, at invitation of Ayr Town Council.
Evening.	President's Reception in Western House.

TUESDAY, 3rd SEPTEMBER.

10 *a.m.*	Paper: "Lameness," by Professor J. J. O'Connor. Discussion to be opened by Mr. J. W. McIntosh.
12 *noon.*	Congress photograph.
1-45 *p.m.*	Popular Lecture: "Tuberculin Testing," by Professor J. B. Buxton, in the Palais de Danse.
3-45 *p.m.*	Visit Craigie Mains Farm, Symington, to inspect Mr. James Kilpatrick's stud of Clydesdales.
Evening.	Amateur Dramatic Entertainment on behalf of the Victoria Veterinary Benevolent Fund.

WEDNESDAY, 4th SEPTEMBER.

9-30 *a.m.*	Operations, Demonstrations and Exhibition of Morbid Specimens in Cattle Market, Ayr.
4 *p.m.*	Demonstration on Meat Inspection at Public Slaughterhouse, Ayr.
Evening.	Banquet in Town Hall, Ayr.

THURSDAY, 5th SEPTEMBER.

9-30 *a.m.*	Paper: "Calcium and Phosphorus Requirements of Farm Animals and Effects of Deficiency," by Dr. J. B. Orr, Rowett Institute, Aberdeen. Discussion to be opened by Professor J. Russell Greig.
11 *a.m.*	Paper: "Johne's Disease," by Major G. W. Dunkin. Discussion to be opened by Dr. A. Leslie Sheather.
2 *p.m.*	Motor tour to Glenapp Castle, Ballantrae, *via* Girvan and Colmonell.
Evening.	Free (Masonic Meeting).

FRIDAY, 6th SEPTEMBER.

10 *a.m.*	Paper: "Clinical and Epidemiological Aspects of the so-called Hysteria of the Dog," by Professor Hobday. Discussion to be opened by Major Frank Chambers. Followed by Closing Meeting of Congress.
2 *p.m.*	Visits to herds of pedigree Ayrshire Cattle.
Evening.	Whist Drive and Dance: Western House.

List of Recommended Hotels and Boarding Houses.

AYR.

Licensed Hotels.

1. Ayr Station Hotel (L.M.S.)	terms from	20/-	a day.
2. Hotel Dalblair, Alloway Street	„ „	18/-	„
3. Hotel Berkeley, Barns Street (single rooms all engaged)	„ „	12/6	„
4. Ayrshire and Galloway Hotel, Burns Statue Square	„ „	16/-	„
5. Burns Monument Hotel, Alloway ... ... This hotel is 2½ miles from town at tram terminus, also good service of buses.	„ „	12/-	„

Private Hotels and Boarding Houses.

1. Blendon Private Hotel, Bellevue Road	...	12/- to 15/-	a day.
2. Milrig Hotel, Charlotte Street		9/-	„
3. Hotel Windsor, Alloway Place		10/-	„
4. Beresford Temperance Hotel, Burns Statue Square ...		14/-	„
5. Green Lodge, Charlotte Street		9/-	„
6. Wellpark Boarding House, Miller Road		9/-	„
Bellisle Mansion House, Doonfoot, Ayr		10/6	„

Bellisle is about 2 miles from centre of town, on bus route.

PRESTWICK, 2 miles from Ayr; excellent car and bus services.

Private Hotels.

Queen's Private Hotel, Esplanade	...	15/- to 18/-	a day.
St. Ninian's Private Hotel, St. Ninian's Road		12/-	„
St. Nicholas Private Hotel, Ayr Road		10/-	„
Arranmore, Esplanade	...	9/-	„
Beach House, Esplanade	...	9/-	„

TROON, 8 miles from Ayr; 15 minutes bus service.

Licensed Hotels.

Marine Hotel	...	18/- to 21/-	a day.
South Beach Hotel		17/-	„

Private Hotels.

Craigielea	...	15/6 to 17/6	„
Mar Lodge	...	12/6 to 16/-	„

TURNBERRY, 16 miles from Ayr.

Turnberry Hotel (L.M.S.) terms from 30/- a day.
Postal address: Turnberry, Ayrshire.

First-class hotel accommodation in Ayr is limited and early application is advised.

In addition to the above, excellent private apartments are available in Ayr and Prestwick and members preferring such should communicate with the Local Secretary stating their requirements. A. DOUGLAS, *Local Secretary*.
17 Wellington Square, Ayr.

The Veterinary Record.

8th June, 1929.

AYR CALLING.

On another page we publish the revised and elaborated programme of the Ayr Congress that is now rapidly approaching. Even the most captious critic will find it difficult to sustain a grumble when he reviews the programme and remembers that the labours of a Provisional Committee must always be conditioned by the circumstances that a Congress can only last a few days at most, and that for those few days subjects of as wide and as varied a character as possible must be provided for discussion by people of widely varied interests.

But scientific and professional discussions are not the only features of a Congress—some, possibly, would go so far as to say that they are almost of secondary importance. The social side of the meeting has its uses.

That Ayr is an ideal place at which to hold a Congress is acknowledged by all who have any acquaintance with the Town and the surrounding country. Situated as it is in one of the most strikingly picturesque and romantic parts of Scotland, Ayr appeals to both the eye and the imagination. To the fairness of the county of Ayr tributes without number have been paid, and each singer of its praises has found some new beauty to laud. ". . . . a place of rocky shores, of sounding bays, of seas that ripple on the yellow sands; a shire of misty heights, of little hills, of tree-clad altitudes; of meadows green, and daisied haughs and gowaned braes . . ." One need not necessarily be a Scotsman to be thrilled by the thought of a visit to the "country of Burns." The Southerner who has the smallest tincture of poetry and romance in his composition cannot fail to be not a little stirred by the prospect of visiting a district with which are intimately associated, not only the name of Scotland's national poet, but also those of Wallace, The Bruce, Cromwell, and a host of lesser men.

Without the smallest fear that, if our persuasion is effective, we shall be accused later of drawing people to Ayr on false pretences, we unhesitatingly make an earnest appeal to all members of the "National" to support the coming Congress. There are many reasons why they should do this, apart altogether from the pleasure they would gain. The vigour and vitality of an Association and a profession are not infrequently gauged, not only by the outside public but also by the members of the profession itself, by the numbers that appear at the annual meeting; and at no time in the history of the veterinary profession has it been more desirable—even imperative—to demonstrate to the general public that the veterinary profession is living and progressive. Looked at from another point of view, the greater the attendance the greater the benefit to those that attend. There is more abundant ventilation of opinion, and opinions are of wider and deeper character; knowledge the more spacious is diffused; and—not least—more friendships are made, renewed and cemented.

Lastly, and without even remotely approaching the exhaustion-point of the list of reasons why attendance should be good, we would add that the greater the number of professional brethren from over the Border the Scotsmen have to welcome, the better they will be pleased and the more highly will they esteem the compliment.

REDUCED FARES FOR AYR.

We are glad to be in a position to add an important inducement of a material nature to the more æsthetic considerations contained in the fore-going appeal for attendance at Congress, in the announcement that, after a lapse of three years, the railway companies have renewed the provision of cheap travel facilities.

In this connection, Major Douglas, the Local Secretary, writes as follows:—"The Railway Companies in Great Britain are issuing tickets, available from 30th August to 7th September, at single fare and one-third for the double journey, and this concession applies from Irish ports by the recognised routes *via* railway-owned steamers, and the boats of the Belfast Steamship, British and Irish Steam Packet, and the City of Cork Steam Packet Companies, and of Messrs. Burns and Laird Lines, Ltd.

"Whether the Irish Railway Companies will grant similar facilities from towns in the interior of Ireland to the ports, appears doubtful, but I am in communication with Professor O'Connor as to the probable numbers which might be expected to take advantage of such facilities, and, if these are reasonable at all, an application will be made to the Irish Railway Clearing House in Dublin. Vouchers, duly filled in and signed by me, must be surrendered at the booking offices by the persons in whose favour the forms are issued.

"Last year a loose leaf was inserted in the *Record* in the form of an application form for tickets for the various functions and outings; something similar will be done this year and the applications for vouchers will appear on that form."

. . . . . .

The Hiring of Gowns.

Messrs. Ede and Ravenscroft, gown makers to the R.C.V.S., propose making a number of gowns for hiring out purposes. The charge for the hire of a gown and hat for the week will be 10s. 6d., *plus* carriage 9d. It is hoped that members who do not possess gowns will take advantage of this facility and wear a gown on those occasions when Academic dress should be worn, such as the Church Parade and on the occasion of the Civic Welcome at the forenoon session on the Monday. Intimation as to the details of the process of gown hiring will be given later.

The Fifth International Congress of Military Medicine and Pharmacy.

The above Congress of the Medical Services of the Navy, Army and Air Forces was held in London from May 6th to 11th inclusive. Forty different countries were represented, and the number of delegates approximately was 750. Many were accompanied by their wives and daughters, and the occasion, as is usual with conferences, was made a combination of pleasure and scientific interest. Needless to say, both can be obtained in London and vicinity, and given a very generous Treasury with a substantial hospitality Fund, success was evident from the moment of inception.

Arrangements were put in train some months ago. Ministers of State were appointed Honorary Presidents. Heads of Navy, Army and Air Force Departments, the Presidents of the various Medical, Veterinary, Dental, Pharmaceutical, and Public Health Bodies and the Deans of all Medical Schools were invited to become Vice-Presidents. Included in the latter were the Presidents of the Royal College of Veterinary Surgeons, and the National Veterinary Medical Association of Great Britain and Ireland, and for the purposes of the Congress, Major-General Sir John Moore and Lt.-Col. J. Wakefield Rainey were detailed to represent the President and Council of these two bodies respectively. A strong Organising Committee under the presidency of Lieut.-General Sir Matthew H. G. Fell, the Director-General of Army Medical Services, was formed from representatives of Government Departments, and the Chief Medical and Allied Scientific Services. Major-General Sir John Moore represented the Royal College of Veterinary Surgeons on this Committee and attended all the sittings. A large amount of detail work fell to the lot of the Programme Committee appointed from the Organising Committee, and all secretarial duties were very efficiently carried out by the Organising Secretary, Major A. D. Stirling, D.S.O., M.B., R.A.M.C. All meetings were held at the British Medical Association House in Tavistock Square, the Great Hall of that building being most suitably adapted for that purpose. A fine Exhibition of Medical Appliances, Publications, etc., was held there too, and during the Congress the Wellcome Bureau of Scientific Research, the Wellcome Historical Museum, the Wellcome Museum of Medical Science and the Parke's Museum, Royal Sanitary Institute, were open each day for inspection.

Monday, the 6th, was Assembly Day. After an official photograph at the B.M.A. House, delegates and members visited Westminster Abbey and laid a wreath on the tomb of the Unknown Warrior on behalf of the Congress. The Inaugural Meeting was held at the B.M.A. House in the afternoon, and the delegates were welcomed by Sir Laming Worthington-Evans, Secretary of State for War, on behalf of the British Government. Later on the principal official delegates were received by H.R.H. the Prince of Wales, at St. James's Palace, and in the evening the principal official delegates and distinguished visitors, limited to 150, were entertained to a dinner given by His Majesty's Government. The day ended by an official Government reception at Lancaster House at which a very large number was present.

During the week five papers on medical subjects were presented and discussed, the papers being previously printed in English, French and Italian. These were :—

(1) "Evacuation of Sick and Wounded by Water and Air. The rôle of Medical Services in Combined Operations," on Tuesday morning, 7th May.

(2) "Tropical Fevers of Short Duration," on Thursday morning, 9th May.

(3) "Wounds of Blood Vessels and their Sequelæ," on Friday morning, 10th May.

(4) "The Physical and Chemical Analysis of the Glass and Rubber Articles employed by the Medical Services," on Friday morning, 10th May.

(5) "The Standard of Dental and Physical Fitness in the Services," on Friday morning, 10th May.

The two latter were delivered at the Hall of the Pharmaceutical Society of Great Britain, and the Headquarters of the British Dental Association respectively.

Outside visits were arranged for :—

(*a*) Aldershot by charabanc (limited to 500), on Tuesday, 7th May, where Hospitals, the Army School of Hygiene, R.A.M.C. Training Establishment, Barracks, Regimental Institutes, Sergeants' Messes, Bakeries, Butcheries, etc., and the Army School of Physical Training were inspected, and tea provided.

(*b*) Visit on Wednesday, 8th May (limited to 500), by special train to Royal Navy Establishments at Portsmouth, including H.M.S. "Victory," H.M.S. "Hood," and the Royal Naval Hospital at Haslar. Delegates and their wives and daughters were entertained to lunch by the Mayor and Corporation of Portsmouth.

(*c*) Visit by charabanc, on Thursday, 9th May (limited to 500), to the Royal Air Force Establishments at Halton.

For those unable to go on outside visits a suitable programme of visits and lectures was arranged. This included parties to the National Gallery, Tate Gallery, Wallace Collection, Tower of London, Royal Mint, St. Paul's Cathedral, the Royal Hospital at Chelsea, Milk Bottling Depôts of the United Dairies, the Certified Milk Farm of the Express Dairy at Finchley, the Museum of the Royal College of Surgeons, and the Wellcome Museum of Medical Science. Of lectures, in the afternoon, Major Ian Hay Beith gave an amusing dissertation on "The English Sense of Humour," and Sir Philip Gibbs an interesting personal account of "Experiences of an Official War Correspondent."

Evenings were spent at Conversaziones and Receptions by special invitation from the Royal College of Physicians, the Royal College of Surgeons, Dr. Henry S. Wellcome, at the Wellcome Historical Museum, and the Royal Army Medical College.

A very pleasing ending to the Congress, and one which will be remembered by all, was a reception and banquet to the official delegates and to a limited number of members, by the Right Honourable the Lord Mayor and the Corporation of the City of London at the Guildhall, 645 accepting the special invitation. The toast of the Congress was proposed by Lord Moynihan. In very choice words he reviewed the progress of medical science and the experi-

ences of the late war. Medical men, he said, detested war in all its aspects, and he would never forget his experience of the revolting ravages of war. He added that he was afraid that to-day the medical service was responsible for the prolongation of hostilities. With the medical services of a century ago, wars like the last would be impossible, because the number of wounded and sick could not be rescued and repaired, and they would, therefore, be incapable of returning to duty. He mentioned that the British had approximately 2,000,000 wounded in the war, and of that number the medical services returned 80·7 per cent. to duty.

The toast was suitably responded to by the chief delegates from France, U.S.A. and Italy.

DIVISIONAL REPORT.

Veterinary Medical Association of Ireland.*

A general meeting of the Veterinary Medical Association of Ireland was held in Dublin on Thursday, November 22nd, 1928. There were present Mr. A. F. O'Dea in the Chair, also Messrs. M. J. McClancy, D. C. Greene, A. A. Donnelly, H. T. Ryan, L. M. Magee, J. F. Healy, J. M. Crowe, S. O'Donovan, P. F. Dolan, E. V. Kelly, M. F. Murphy, C. M. Griffin, J. E. Kenny, T. H. Kellett, H. O'Leary, J. Doyle and Professors Browne, Craig and O'Connor.

The minutes of the previous meeting, having been circulated, were taken as read and were approved and signed.

Apologies for non-attendance were received from Mr. Cosgrove and Mr. Howard.

Colonel H. T. RYAN then read his paper, "Practical Hints," which is reproduced, together with the discussion which ensued, earlier in this issue of the *Record*.

The *Report of Council*, which included a recommendation to the General Meeting for the Association to become affiliated with the Royal Horse Association of Great Britain (affiliation fee £1 1s.) was read, approved and confirmed.

The meeting then closed.

J. J. O'CONNOR, *Hon. Secretary.*

ANIMAL PROTECTION.

RESOLUTIONS OF VIENNA CONGRESS.

The International Congress of Societies for the Protection of Animals recently held in Vienna, passed resolutions making the following recommendations, amongst others:—

"Animal protection" as a regular subject of instruction in schools.

The creation in every State of a Department of Animal Protection.

Improved regulations for the transport of cattle by water, land, and air, and their adoption internationally.

Prohibition of the export of horses from England to France, Holland and Belgium for purposes of slaughter, and of the transport of horses unfit for further service from any one country to another for purposes of slaughter.

Prohibition of the employment of cats for the training of bloodhounds.

Measures for the protection of sea birds from destruction by oil discharged from ships.

International legislation for the protection of birds of paradise, egrets and fur-bearing animals.

Protection for rhinoceroses, elephants, and whales, and condemnation of the use of charges of explosives shot with the harpoons.

* Received on April 18th.

ABSTRACTS.

[Infectious Necrotic Hepatitis (Black Disease), caused by *B. œdematiens* in a Cow. TURNER, A. W., *Austral. Vet. Jnl.*, 1929, March, Vol. V, No. 1, p. 11.]

A disease of sheep, popularly termed black disease or "braxy-like" disease, which exists in Australia and New Zealand, has been the subject of several investigations. Turner has shown that the disease is characterised by areas of necrosis in the liver containing *B. œdematiens* associated with immature flukes. This note describes a fatal condition in a cow showing (*a*) the presence of necrotic foci in the liver containing *B. œdematiens*; (*b*) the infestation of the liver at some period with *Fasciola hepatica*; (*c*) the occurrence of serous effusions, particularly of the pericardial sac.

The liver contained a large area of necrosis measuring 5 cm. by 3 cm., surrounded by a deeply congested zone. No flukes could be found, but the bile ducts were greatly thickened, suggesting an invasion by these parasites at an earlier period. A sporulating anærobic organism was isolated in pure culture from the necrotic area and from the parenchyma. This organism was identified as *B. œdematiens* by its cultural characteristics, pathogenicity for the guinea-pig, toxin production and neutralisation by an anti-œdematiens serum prepared with a strain obtained from the sheep. R. E. G.

[The Cultivation *in vivo* of the Virus of Foot-and-Mouth Disease. RINJARD, P. et Mlle. CORDIER. Sur la culture *in vivo* du virus aphteux. *Compt. Rend. Soc. de Biol.*, 1929, April, T. 100, No. 12, p. 977.]

It has been shown that it is possible to cultivate foot-and-mouth virus in the subcutaneous œdema which is produced in the sheep by the virus of sheep-pox. In order to determine whether the sheep-pox virus facilitates the growth of the foot-and-mouth virus, or whether the latter merely finds a favourable medium for its development in the œdematous fluid, the following experiment was undertaken.

A sheep was inoculated subcutaneously on one side of the thorax with a mixture of 5.0 cc. of virulent guinea-pig serum and four drops of croton oil in 100.0 cc. normal saline solution, and on the other side with a similar mixture *minus* the virulent serum. The injection of this irritant fluid provoked an enormous subcutaneous œdema. At the 24th hour, a sample of blood from the jugular vein and a portion of the fluid from each side of the thorax were tested on guinea-pigs. At the 48th hour, the sheep was killed, and the blood and œdematous fluids again tested. It was found that the fluid from the side inoculated with the virus mixture was virulent at the 24th hour, at which period the blood and liquid from the other side were negative. At the 48th hour all three products were virulent, but the virulence of the liquid from the infected side was appreciably more marked. It is hoped that this method will be of service in the preparation of large quantities of uncontaminated foot-and-mouth virus serviceable for the production of anti-foot-and-mouth serum or of formol-killed vaccine. R. E. G.

XUM

STUDENTS' CLINICAL CONTRIBUTIONS.*

Inguinal Hernia.

By R. V. Isherwood, B.A. (Oxon.), Class C, Royal Veterinary College.

The subject, a cross-bred black and tan terrier bitch, about 18lbs. weight, had shown slight lameness occasionally, with a tendency to carry the left hind leg off the ground. Early in August her owner noticed a swelling in the left groin about as large as a filbert.

On examination this proved to be a hernia through the inguinal canal. When the patient was laid upon her back, the hernia was readily reduced by taxis, but on assuming a normal posture it descended almost immediately.

The owner was advised that the hernia might contain the left horn of the uterus or, on the other hand, merely a pad of omental fat, but as the bitch was an exceedingly active animal and there appeared considerable risk of an increase in size as time went on, an operation for its reduction, whilst the hernia was small, was advised.

Accordingly, on August 14th last, the animal having been lightly fed, principally upon soup and bread, for the previous 48 hours, a hypodermic injection of morphine sulphate ¾ gr. was administered. This was followed in a few minutes by vomition and some 20 minutes later by narcosis, the animal lying drowsily on a cushion. She was then secured in the dorsal position by hobbles upon a table and chloroform was administered by a bellows and inhaler. Whilst awaiting anæsthesia, the abdomen and groin were dry shaved with a razor, washed with ether and painted with tincture of iodine. When anæsthesia was complete a linear incision was made through the skin over the hernia and the subcutaneous tissues picked up with forceps and divided, exposing the hernial sac. This was picked up between the finger and thumb and drawn gently out about two inches. The apex of the sac was fixed in a pair of Spencer Wells forceps and the sac itself opened. Careful examination showed the contents to consist merely of omental fat and, as the bitch herself was very fat, it was decided to remove this. A piece of fat about two inches long and as thick as one's little finger was then excised, the hernial sac ligated with silk close to the abdominal wall and cut off with scissors, the stump, when released, slipping back into the abdomen.

The opposing walls of the external inguinal ring were then picked up by two pairs of artery forceps and drawn gently upwards until one suture had been passed through them. The forceps were then removed and the inguinal ring held up by this suture until it had been completely closed by interrupted sutures of No. 4 plaited silk.

After mopping out the wound with sterile swobs of cotton wool, the skin was sutured with interrupted sutures of No. 4 plaited silk, mopped dry and painted with tincture of iodine, the patient meanwhile slowly coming out of the anæsthetic.

Half a drachm of camphorated oil was then given hypodermically.

An Elizabethan collar was cut out of stout cardboard to fit her and left with her owner, with instructions to apply it when the narcotic effect of the morphia had passed off. (The patient was operated upon at her own home as the owner declined to allow her to go into a hospital.)

Next day, apart from drowsiness and intense thirst, which was allayed by occasional small drinks of barley water, the patient appeared very well. The wound at the site of the operation swelled slightly, but apart from this the healing process was uneventful and the Elizabethan collar and sutures were removed on August 24th, ten days later.

Apart from the painting of the skin with tincture of iodine before incising and after suturing it, no antiseptics were used throughout the operation. The abdomen was covered with a sheet of muslin with a window in it, through which the operation was performed, whilst instruments, swabs and sutures, and the operator's rubber gloves were sterilized by boiling in water.

Contagious Granular Dermatitis of Swine.

By J. S. Steward, Class D, Royal Veterinary College.

This was seen in a herd of pedigree swine of all ages and was noticed to have spread from one litter which was first affected to the litter in the next pen, and from that to the other pigs. The lesions consisted of dark granular scabs and crusts on the upper surface of the ears, and in the worst-affected cases the entire surface would be covered with scabs. In the older cases the tips of the ears turned upwards as a result of the disease and spoilt the show appearance of the animals.

The treatment advised was the daily application of an antiseptic ointment containing zinc oleate and lead acetate, each 1 to 12 in lard, with glycerine and Jeyes' fluid q.s. Occasional washing with mercurial soap and hot water was also advised.

After ten days' treatment, the ears of most of the pigs were quite clean and very few showed any signs of the trouble. Those which had their ear tips turning up, afterwards became quite all right and the ear regained its normal shape.

Fatal Poisoning by Thyroid Extract in a Puppy.

By J. S. Steward, Class D, Royal Veterinary College.

The subject was a ten weeks' old, mongrel terrier puppy affected with goitre or enlarged thyroids since birth, but the thyroids had gradually enlarged until now they were each the size of a hen's egg and stood out prominently. The puppy was very thin indeed, and the pulse rate was about 120 and the heart impulse could be seen and felt throbbing violently against the chest wall.

The case was obviously one of hypersecretion, but by an error of treatment thyroid extract grs. ii was prescribed twice daily, with small doses of potassium iodide and iodine in solution. The puppy was taken home and given one thyroid tablet and died in less than twenty minutes from palpitations.

* Cases presented for award under the N.V.M.A. Clinical Prize Scheme for Students, 1928.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Aug. 31st to Sept. 6th.—N.V.M.A. Congress at Ayr.

June 8th.—Meeting of the North of England Division, N.V.M.A., at the Imperial Hotel, Darlington, at 2-30 p.m.

„ 14th.—R.A.V.C. Annual Dinner.

„ 17th.—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, W.C., 4-30 p.m.

„ 17th.—D.V.S.M. Examination commences in Edinburgh.

„ 22nd.—Meeting of the Scottish Metropolitan Division, at Blairgowrie.

July 3rd.—R.C.V.S. Annual Dinner.

„ 4th.—R.C.V.S. Committee Meetings.

„ 5th.—R.C.V.S. Council Meeting.

„ 9th.—R.C.V.S. Written Examinations.

„ 11th.—R.C.V.S. Oral Examinations begin.

N.V.M.A. SUBSCRIPTIONS.

Members receiving this week's *Record* in a yellow-coloured wrapper will be reminded thereby that their subscriptions to the Association are in arrear.

Register of Veterinary Surgeons.

In the list of "Addresses Wanted," published in the Register for 1929, page 284, the name of Mr. E. R. H. Woodcock has been, by some unfortunate error, included. Mr. Woodcock's address is well-known to the Registrar and his name ought not, therefore, to have been inserted in the list. The Registrar, in calling attention to the error, desires to apologise publicly to Mr. Woodcock for any annoyance it may have caused him.

Information has reached the office concerning Mr. E. H. Hallam and Mr. W. J. McCartan, both of whom are dead.

R.C.V.S. Obituary.

Sheppard, William, South Summerlin Street, Orlando, Florida, U.S.A. Graduated, London, 21st April, 1870. Died, 26th August, 1928, aged 79.

Personal.

Appointments.—Dr. W. R. Wooldridge, of the Sir William Dunn Institute of Bio-Chemistry, Cambridge, has been appointed Demonstrator in Chemistry as Applied to Hygiene, at The London School of Hygiene and Tropical Medicine. His teaching duties will be such as to allow Dr. Wooldridge to continue his researches in bacterial chemistry.

Mr. John Neish Ritchie, B.Sc., M.R.C.V.S., D.V.S.M., Edinburgh, has been appointed county veterinary inspector for Midlothian at a commencing salary of £500. Mr. Ritchie was a distinguished student of the Royal (Dick) Veterinary College, and after graduation was six months house surgeon in that institution. For the past two years he has been assistant to the City Veterinary Inspector, Edinburgh.

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We regret to record that, owing to ill-health, Mr. Robert Moore, M.R.C.V.S., D.V.S.M., has had to resign his appointment as Junior Veterinary Officer for the City of Sheffield.

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Congratulations to Dr. J. F. Simpson, only son of Lieut.-Col. P. J. Simpson, J.P., F.R.C.V.S., of Maidenhead, on his achievement in obtaining his F.R.C.S. at the remarkably early age of 26; also to Major-General Sir John Moore's eldest daughter, Dr. Jocelyn Moore, for her success in obtaining, at 24 years of age, the London Degrees, M.B., B.S., having previously also secured the qualifications M.R.C.S. (Eng.), and L.R.C.P. (Lond.).

Army Veterinary Service.

London Gazette—War Office—Regular Army.

May 14th—The notification in the *Gazette* of Jan. 1st, regarding Maj. F. J. Andrews is cancelled.

Mr. Scott's "Survey of Vaccine Therapy."—The author of the paper on this subject, published at the commencement of last week's *Record*, forwards us the following *references* relative to the paper, which he inadvertently omitted to add at the time of writing:—

"Technique of the Teat and Capillary Glass Tube," Wright.

"Infection Immunity and Specific Therapy," Kolmer.

"Clinical Bacteriology and Vaccine Therapy," and "Indexed System of Treatment," Scott.

Mr. Scott also points out the occurrence of the following clerical errors:—

Page 464: (1) "Active immunisation *action* by vaccines" should read "active immunisation by vaccines."
(2) "Autogenise" should read "antagonise."

Pages 465 and 466: "Sulpho-carbonates" should read "sulpho-carbolates."

Page 467: "Bacteriologist veterinarians" should read "bacteriologist and clinician."

Cows Deceive the Farmer's Eye.—Mr. C. D. Elsdon, the Lancashire County analyst, in his report remarks that there seems to be a general idea that it is possible to tell the composition of the milk given by a cow without chemical analysis. Some little time ago, he says, the analyst was at a farm where the bailiff claimed to be able to tell at a glance the cows that were giving rich milk. He picked out four cows from the herd as being those giving the best milk; but, on subsequent analysis of the milk from each of the cows in the herd, it was found that the four cows selected were actually producing the poorest milk.

"The people who have achieved, who have become large, strong, vigorous people, who have reduced their infant mortality, who have the best trades in the world, who have an appreciation of art, literature and music and who are progressive in science, and in every activity of the human intellect, are the people who have used milk and its products liberally."—E. V. McCollum, Johns Hopkins University.

Skin diseases are sometimes associated with ovarian disturbances, and as a consequence the state of the genitals is to be considered in attempting to determine the cause of mysterious eczemas. In eczema of ovarian origin in human medicine, ovarian extracts are recommended and said to be employed with considerable success.—*North American Veterinarian.*

Spey, Aven, and Fiddichside Farmers' Club at a recent meeting decided to continue their campaign of veterinary examination of mares with a view to eliminating shivering mares.

Major M'Vean, veterinary surgeon of the Club, who again offered to examine all mares free of charge, said that under a similar arrangement last year he did not receive a single application.

Horn development in rams is due to the action of an internal testicular secretion. If rams are castrated in early life, horn development is arrested.—*Veterinary Medicine, Chicago.*

XUM

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Nature of Origin of Fistulous Withers.

To the Editor of the Veterinary Record.

Sir,—I was interested in Mr. Scott's paper and the discussion thereon as published in the *Record* of June 1st 1929. As a point of interest, I might mention that in three cases of fistulous withers, where I have had the opportunity of opening up the swelling prior to any surface wound having formed, in each case the escaping fluids were sterile, so that probably some of the organisms described as being present were secondary invaders.

My opinion is that many of the cases of fistulous withers are due to a bursitis occurring in the region above the last cervical and first dorsal vertebræ and the accumulating fluids find their way upwards to the region of the withers. Of course, I am not alluding to those cases of wither trouble due to direct pressure with injury to the spine of the vertebræ. Yours truly, T. G. Heatley.

Woodbridge, Suffolk.
June 2nd, 1929.

Bovine Piroplasmosis Prophylaxis.

To the Editor of the Veterinary Record.

Sir,—Attention has recently been drawn to bovine piroplasmosis. A drug with a specific action on the parasite appears to be still a *desideratum*.

At the Scandinavian Veterinary Congress at Oslo, 1928, the use of a substance known as Icthargan was strongly recommended as a prophylactic measure (Henderson, R. "Om skyddsympning emot och behandling av piroplasmos," 3dje *Nordiske Veterinaermote*, Oslo, 1928, 192-209). The author uses from one to one and a half grams of the drug dissolved in 30-50 ccs. saline solution and injected intravenously at the time of the height of the fever, but whilst the heart action is still good. The solution must not reach the subcutaneous tissues, or a troublesome œdema follows. The writer states that Icthargan, manufactured by Messrs. Cordes, Hermanni and Company, Hamburg, must be used, the product of English and American manufacturers being inefficient. The drug, which should be freshly purchased, must be kept in paraffin-sealed ampoules.

This method might be worth a trial by those whose practices are in "red-water" areas.

Yours faithfully, Geoffrey B. Brook.

Royal Veterinary College, Camden Town.
23rd May, 1929.

Abortion in Bitches.

To the Editor of the Veterinary Record.

Sir,—Would you allow me a little space to ask if any members of the profession would let me have details of any cases of the above that they have encountered during recent years. I should especially like to hear of anything in the nature of an epidemic, or what may have appeared to have been contagious abortion in kennels. Also, I shall be glad to receive *data* concerning excessive puppy mortality in breeding establishments, and indurating mammitis in freshly-whelped bitches. I am especially interested in those cases that have occurred amongst Foxhounds, and if bacteriological examinations have been carried out I should be glad to hear the results.

Yours faithfully, J. V. S. Rutter, M.R.C.V.S.

Gwynne House, Hereford.
June 3rd, 1929.

The Financial Aspect of Country Practice.

To the Editor of The Veterinary Record.

Sir,—I cannot see that Mr. B. H. Benson's remedy for the poverty of the veterinary profession would be of any avail, though I agree that there is a want of co-operation. It would be very unwise for the R.C.V.S. to draw up a scale of fees to be charged for ordinary cases. Indeed, it may be, according to their Charters and Acts of Parliament, quite outside their powers. I do not know. Fortunately, at the present time the veterinary profession is not a trade union, and a practitioner can charge what fees he likes or can get, and this is as it should be, for it encourages industry and progress. It is my opinion that, generally speaking, the fees charged at present are not too low but too high. The thought of these high charges keeps many of the public away from our surgeries and drives them to the unqualified and to the advertised remedies sold quite properly by the chemist.

To take a few examples. To remove worms from a dog costs, say, a shilling with the chemist's remedy and about five shillings by a veterinary surgeon. Again, the destruction of a pet by prussic acid is carried out at the chemist's shop for about eighteenpence, at the surgery for about three half-crowns. Then there is the matter of the castration of male cats. Many qualified practitioners do it in exactly the same way as the cat's meat man and I suppose with equally good results.

Strangely enough, though we grumble at the poaching of others upon our preserves, yet we are not guiltless of this ourselves. The boarding of healthy dogs is not, strictly speaking, veterinary work at all. Nor is the washing and trimming of their coats. I am quite aware that under the present circumstances these unprofessional duties are rendered necessary to make ends meet, yet it seems to me that if there were greater co-operation between neighbouring practitioners, not so much in regard to fees but in regard to practical help in operations and so forth, there would not be the need for so many unqualified assistants in, at any rate, town practices.

Yours faithfully, Bernard Gorton.

22 Arnewood Road,
Bournemouth.

Milk and Public Health.

To the Editor of the Veterinary Record.

Sir,—With reference to Mr. S. Sharp's letter in your issue of 18th May, I should like to associate myself entirely with what Mr. Sharp says.

In *The Times* of September, 1927, there was quite a long article containing similar matter to that which appeared in the *Sunday Dispatch* of 5th May, which was supposed to have been a speech made by Professor Hobday at The National Congress at Torquay the previous day, when a paper was read on milk. I was present during the whole meeting and Professor Hobday never spoke at all on the subject of milk, so how his views could have got into *The Times* is a mystery. In this article, also, Professor Hobday asserted that over 10,000 children died every year from tuberculosis caught from tuberculous cows. I would like to ask Professor Hobday from what source he derives this information, as several people have asked me this question and I have not been able to answer them.

Yours, etc., Graham Rees-Mogg.

May 28th, 1929.

The Editor acknowledges the receipt of the following:—

Report of a meeting of the North Midland Division, N.V.M.A., from Mr. W. Tweed, Hon. Secretary.

Communications from Major H. Allen (Punjab), Dr. T. W. M. Cameron (London), Mr. J. C. Jackson (Highgate), Lt.-Col. J. W. Rainey (Kingsbridge), and Lieut.-Col. W. H. Walker, R.A.V.C.